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September, 1946

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THE GREAT WESTERN

GARMENT CO. LTD., EDMONTON

Lumber, Fruit and Salmon

B.C. hopes to get down to business on its postwar program

By CHAS. L. SHAW

BRITISH COLUMBIANS are sincerely hopeful that before long they will be able to get their current rash of labor troubles out of their economic and industrial system. Considering the number and length of the strikes that have taken place so far this year, it is surprising that the west coast province has been able to make the headway it has in meeting the problems of the re-conversion period.

The loggers' and sawmill workers' strike, which was in a way the most serious in British Columbia's labor history because of the production stoppage that resulted, might have been considered as much as the province could absorb in one year without upsetting the whole balance of business. However, that was only one of several tieups of industry. From the province-wide standpoint the most serious strike currently under way is that of the hard rock miners, and this has closed up every important lode gold mine west of the Rockies as well as two of the largest copper mines and some base metal properties. As this is written there is hope for an early settlement, but the miners have already been out for more than a month.

In addition, there have been newspaper strikes and foundry strikes and threats of other strikes—so many, in fact, that they have been taken for granted, and due allowance is being made for the curtailment in production that has followed. But that doesn't alter the fact that a majority of the people are becoming somewhat exasperated and keenly looking forward to the day when peace on the labor front will be restored.

Trees, But No Lumber

The coast is beginning to feel the full impact of the logging and sawmill strike now. All over Vancouver, Victoria and other centres you will see scores of new private dwellings and apartment houses stalled for lack of lumber. The situation would not be so difficult if there was not an acute demand for all the living accommodation that can be provided. The cities were never more crowded than they are today.

Hotel space seems to be at a premium everywhere these days, but in British Columbia, where so much depends on the summer tourist business, travellers have had unprecedented problems to contend with, and most of the optimists who arrived without previous reservations have been completely out of luck. However, thousands of visitors visited Vancouver during the city's Diamond Jubilee celebration and where they found the nights' lodging remains one of the minor miracles of the year.

The returned veteran has been the principal victim of the housing shortage, and many of them with their families are forced to tolerate living conditions that in other years would have seemed fantastic. However, in most instances the situation is accepted philosophically in the knowledge that it won't last forever. The easiest consolation is that these troubles are a part of the growing pains of a rapidly expanding community, but that explanation doesn't make the present lot much easier to bear.

One of the most hopeful signs of the times is presented by the number of people who are going to the country to live. In some cases, this course has been followed by families who became tired of the unceasing scramble for living space in the cities, and they have found their decision a rewarding one. In British Columbia there is certainly room for many thousands more settlers who are equipped with the necessary resourcefulness and energy to make a success of farming.



Now that the federal and provincial governments have come to terms on the allocation of British Columbia land for veterans—the province offered a million acres—it is expected that more progress will be made in settling returned servicemen in areas where they will have a reasonable prospect of making more than a bare living in agriculture.

Other factors tending to encourage the opening up of new areas are the extension of the British Columbia highway system to the Peace River country, closing of the Hope-Princeton gap in the Trans-Canada Highway and proposed completion of the provincially-owned Pacific Great Eastern Railway to Prince George and thence northward to the Peace. Meantime surveys are being made to determine the engineering feasibility of such an extension and the extent of the coal deposits which would presumably provide a large share of the freight for the new railroad. The oil possibilities of the Peace River are also being examined again.

Hail in Okanagan

Fruit growers in the Okanagan valley suffered considerable loss late in July when a hailstorm swept through the area. Some authorities estimated that the loss would run to \$1,000,000, but a careful check on the acreage affected indicated that this is probably placing the score pretty high.

Some orchards were all but ruined, but these were in the direct path of the storm. Other orchards nearby, perhaps within a few yards, were scarcely touched. The crop hardest hit was prunes. But apples were extensively damaged, too, and an official of the B.C. Tree Fruits, Ltd., which markets all the apple crop, said that it might be necessary to write off about 750,000 boxes from the 1946 pack.

This loss, important though it may be, will not be such a blow to the industry this year as it would have been in other seasons, because production of apples in the Okanagan prior to the visitation of hail was headed for an all-time record and it is doubtful whether even the hail loss will ultimately spoil the performance.

The Okanagan was threatened with a critical shortage of boxes and other wooden containers, as a result of loggers and sawmill strikes and other factors, and had there been no reduction from the original high crop estimates it's possible that the box manufacturers simply couldn't have handled the volume anyway.

There may be an abundance of culls in the apple crop this year, or at any rate a surplus over the fresh pack for the box trade and export, and this year as never before there will be capacity for processing them. California interests are reported to be financing the operation of a new apple juice plant in the Okanagan, and in addition B.C. Tree Fruits, Ltd., plans to operate two or three processing plants of its own, having acquired them from independent companies during the past year to implement the diversified production policy of the growers' organization.

Every year sees expansion of the fruit and vegetable processing industries, and leaders in the field say that the west coast province is only just beginning to capitalize on its opportunities in this respect.

"Stories you hear sometimes that the Okanagan valley has reached its saturation point and cannot support any more growers with large fruit and vegetable acreage are so much nonsense," a Vernon vegetable and fruit canner remarked the other day. "There is still plenty of land that will blossom with

Turn to page 61

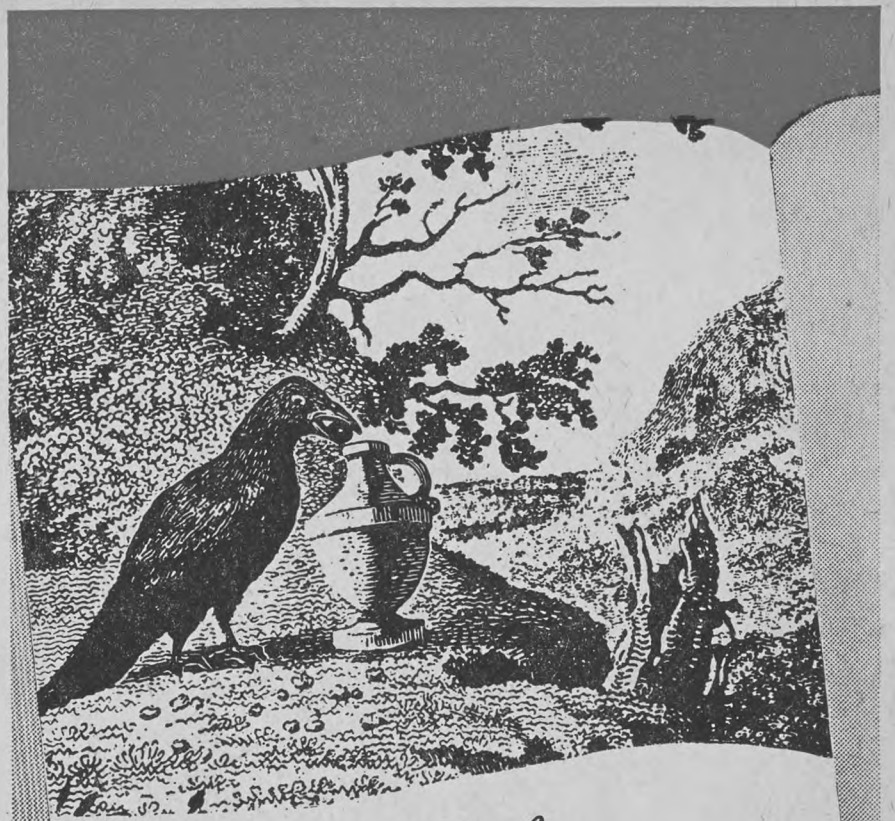


Table of The Crow and the Pitcher

A Crow, ready to die with thirst, flew to a Pitcher, which he beheld at some distance. He found water in it indeed, but so near the bottom that he was not able to reach it. He tried to overturn the Pitcher, but his strength was not sufficient. Seeing some pebbles near the place, he cast them one by one into the Pitcher; and thus, by degrees, raised the water up to the very brim, and satisfied his thirst.

"Necessity is the mother of invention"

Owing to shortages, you may not always be able to get Stanfield's Unshrinkable Underwear. Of necessity, then, the next best thing is for you to take special care of the Stanfield's Underwear you now have. Give it frequent and careful washings. Use a mild soap. Make minor repairs. Stanfield's Unshrinkable Underwear is famous for long wear... you can make it last even longer by giving it EXTRA CARE!

We hope more materials will soon be available to make enough Stanfield's underwear to supply the demand from our retailers from Halifax to Vancouver.

STANFIELD'S
Unshrinkable
UNDERWEAR
SOFT • WARM • DURABLE



Are you getting only half the Service-Life out of your Plow Points and wasting fuel, too?

Surveys show that many farmers hitch improperly — Result:—PLOW POINTS WEAR OUT RAPIDLY AND FUEL IS WASTED

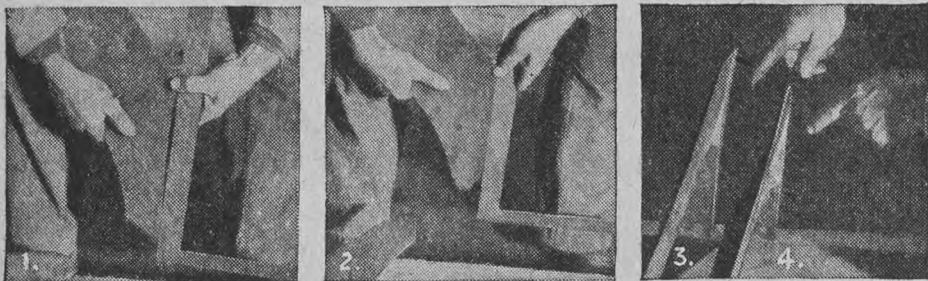
Field surveys by Agricultural Engineers show that three out of four farmers do not hitch their plows correctly.

The most common error is to hitch too high, causing the plow points to wear out 50% sooner than they should, according to the surveys.

Field tests show also that more fuel can be wasted by an improperly hitched plow than a badly adjusted carburetor.

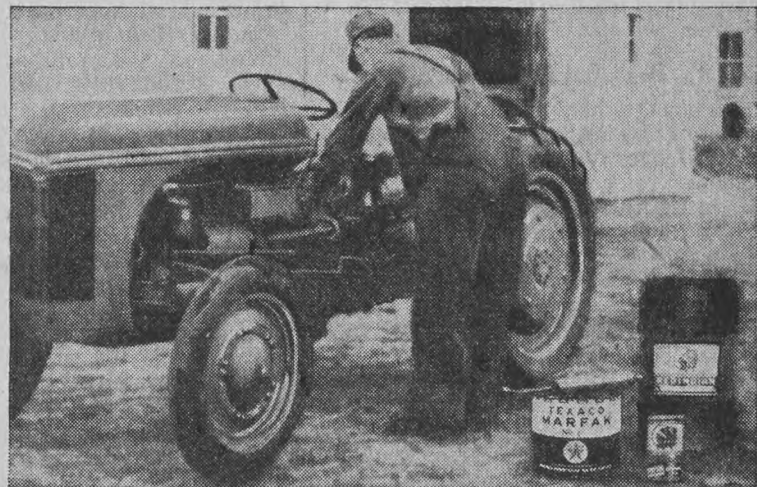
Correct principles of hitching are outlined in "Harvest Gold" McColl-Frontenac's Farm Machinery Manual, which you can secure through McColl-Frontenac representative or by writing the nearest McColl-Frontenac office.

Correct lubrication and the use of the best fuels are equally important factors in the economical operation of farm machinery. Here again, McColl-Frontenac can help you with fuels that give the maximum power, with lubricants that will save trouble and repair expense.

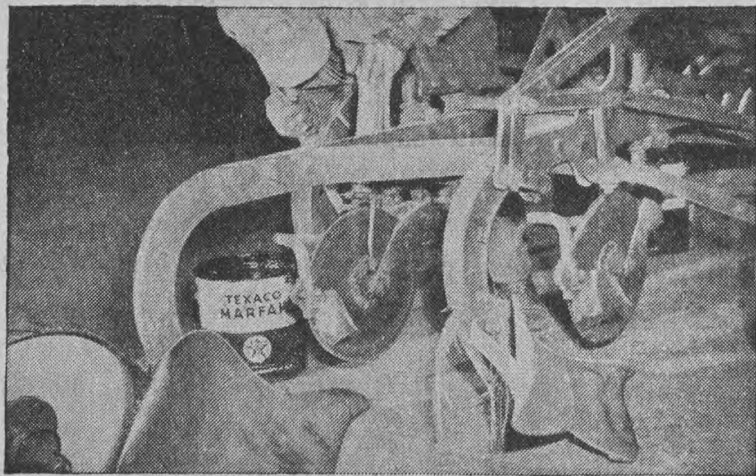


THE "BEFORE" AND "AFTER" STORY OF PLOW POINT WEAR

Illustrated above (No. 1) is a new plow share. Note the sharp end which points slightly inward, insuring landside suction and a full width of furrow. The point has gone from the worn share (No. 2) and it will not operate efficiently. The end of the new share (No. 3) points downward insuring bottom suction and penetration. The old share (No. 4) has worn straight and will not work well.



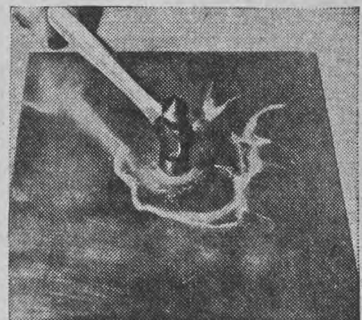
RED INDIAN AVIATION MOTOR OIL is free of harmful carbon-forming impurities. This means a cleaner engine, more power, greater fuel economy and fewer overhauls. It's the safe oil that saves you money. Texaco Ursa Oil X** gives the same reliable performance for Diesel Tractors.



When you give vital bearings a shot of **TEXACO MARFAK LUBRICANT**, you protect them with a lubricant that will stick to the job under all weather conditions. It protects bearings longer because it clings to them; and Marfak has the extraordinary ability to form a fluid film inside the bearing, while retaining its original consistency at the outer edges. By sealing itself in, it seals out dirt and moisture.



TEST MARFAK THIS WAY. You'll see, Marfak cushions the blow, sticks to the job, doesn't spatter.



Ordinary cup grease spatters in all directions, the hammer drives right through it to the metal. Try an equal amount to test both.

MF 6-1R



McCOLL-FRONTENAC PRODUCTS
FOR THE FARM

An English Farm Pilgrimage

WHEN the National Farmers' Union of England invited farmers from thirty other nations to London earlier in the year to form an international producers' organization, it was anxious that all the visitors should have first hand knowledge of the main problems which beset farmers in Britain. Accordingly it planned a tour which, in a week's

New methods coming into vogue on English farms will cancel some of the advantage of cheaper production costs enjoyed by Overseas competitors

By P. M. ABEL

time, took the foreign delegates over twenty of the most efficiently operated farms that lay along the route. The tour starting from London, led the visitors up the valley of the Thames as far as Oxford; over the high Cotswolds to the waters that flow to Bristol Channel and the Atlantic; north almost to "The Black Country" of Staffordshire; east to the fertile fen lands of Lincolnshire reclaimed from the sea; and terminated at His Majesty's Windsor farm where the guests were received by the Royal family.

Although the tour was a marvel of organization there were some things it did not disclose. It did not give a true picture of agricultural England. The farms we saw were large places, adequately financed, well managed, and making money as never before. It was about as representative as a tour of our own Master Farmers' steadings would be of prairie agriculture. It was a show window performance.

But that trip did press home two facts; the exquisite beauty of the English countryside, which the visitors expected to see, and, what they did not expect, striking examples of new ideas which are taking hold of British agriculture and which are destined to reshape it in a few years' time.

Truly England is a continent in miniature. Every county wears its own distinctive vesture. In a trip as short as this farm tour one sees a variety of landscape unparalleled in any similar sized corner of the world. Through Buckinghamshire our buses threaded beechwood forests reminiscent of France. From a high eminence in Oxfordshire where poplars predominate and stone walls replace the customary hedges, one could imagine himself in Ontario. The low lands of Lincolnshire, won by centuries of toil from the sea, are a replica of Holland, even to the presence of windmills after the Dutch pattern. Cambridgeshire is Denmark. And not even chilly Scotland can be more forbidding than the bare, windswept Cotswolds whose thin limestone soil supports hardy races of sheep and cattle.

From a grain grower's point of view the most interesting farms visited were those of H. C. C.

Tinsley and Son, Holbeach St. Marks, Lincolnshire, and R. W. N. Dawe, near Burton-on-Trent, Staffordshire.

The Tinsley farm from external appearance might very well be on the Soo Line plains south of Regina—new one-storied buildings erupting from a flat treeless expanse of heavy black silt, with the smallest possible concession to beauty but the most lavish care for the requirements of utility. Of the 1,400 Tinsley acres all but 26 are under the plow. Owing to almost complete mechanization, the implement shed, the workshop, and the office are the central features of the farm steading. Horses are used only for trucking about the farm, and even these are due for replacement by Fordson dumpers.

THE workshop was acknowledged by common consent of all the Canadians in the delegation to be the most complete farm shop ever seen by them. The implement shed, which contained \$40,000 worth of equipment exclusive of tractors, was arranged to display 24 different implements used singly or in combination with larger power drawn units. The office maintains cost accounting records on every individual implement. There are no public institutions in England like the Swift Current farm conducting large scale and continuous investigations on farm implements. Experimentation in England is largely left to machinery manufacturers, and most of it is done in collaboration with selected farmers. The elder Tinsley's genius for mechanical engineering makes him a highly prized co-operator and his farm bristles with prototypes and pilot models.

Before the war the Tinsleys followed a rotation which was about one-third grain, one-third legumes and the balance row crops. Two dollar wheat at

Surface coal mining operations at Cliftonthorpe Farm, Ashby-de-la-Zouche, Leicestershire. Sixteen months will elapse between the time the first sod is broken and the farm is again in crop. By such means England has eked out her critical coal supplies during and since the war.

British rates of yield have converted them temporarily into wheat farmers, and the expense incurred in recent additions only indicates that the Tinsleys will return to their wonted ways only insofar as soil maintenance requires it, and only when a benign government withdraws support from grain farming. The Tinsley operations served as a reminder to Canadians in the party that grain growers in Canada cannot hope to offset British production costs by labor-saving methods. English farmers may be late in devising and adapting such methods for their own use, but higher labor costs are driving in that direction. Mechanization is a natural sequel. Mechanization favors grain production and Britain will never again be so dependent on outside wheat supplies as she was in 1939.

The farm of Mr. Dawe, named "Alrewas Hayes," is in sight of Lichfield cathedral. Lichfield is remembered as a place where a group of Reformation martyrs were burned at the stake. Englishmen like to erect memorials recalling occasions when they were guilty of excessive zeal. It keeps them steady now when tempers are raised. Maybe we in Canada should emulate them. Maybe Winnipeg should erect a statue to Dixon, Woodsworth and Queen between the old jail where they were incarcerated and the University, whose culture should breed tolerance.

However that may be, Alrewas Hayes is not so extensively devoted to grain production as the Tinsley farm, but its 600 acres corroborate the opinion that Britain can grow more grain and cheaper grain than she has in the past, on some farms as cheap, perhaps, as we can grow it in Canada.

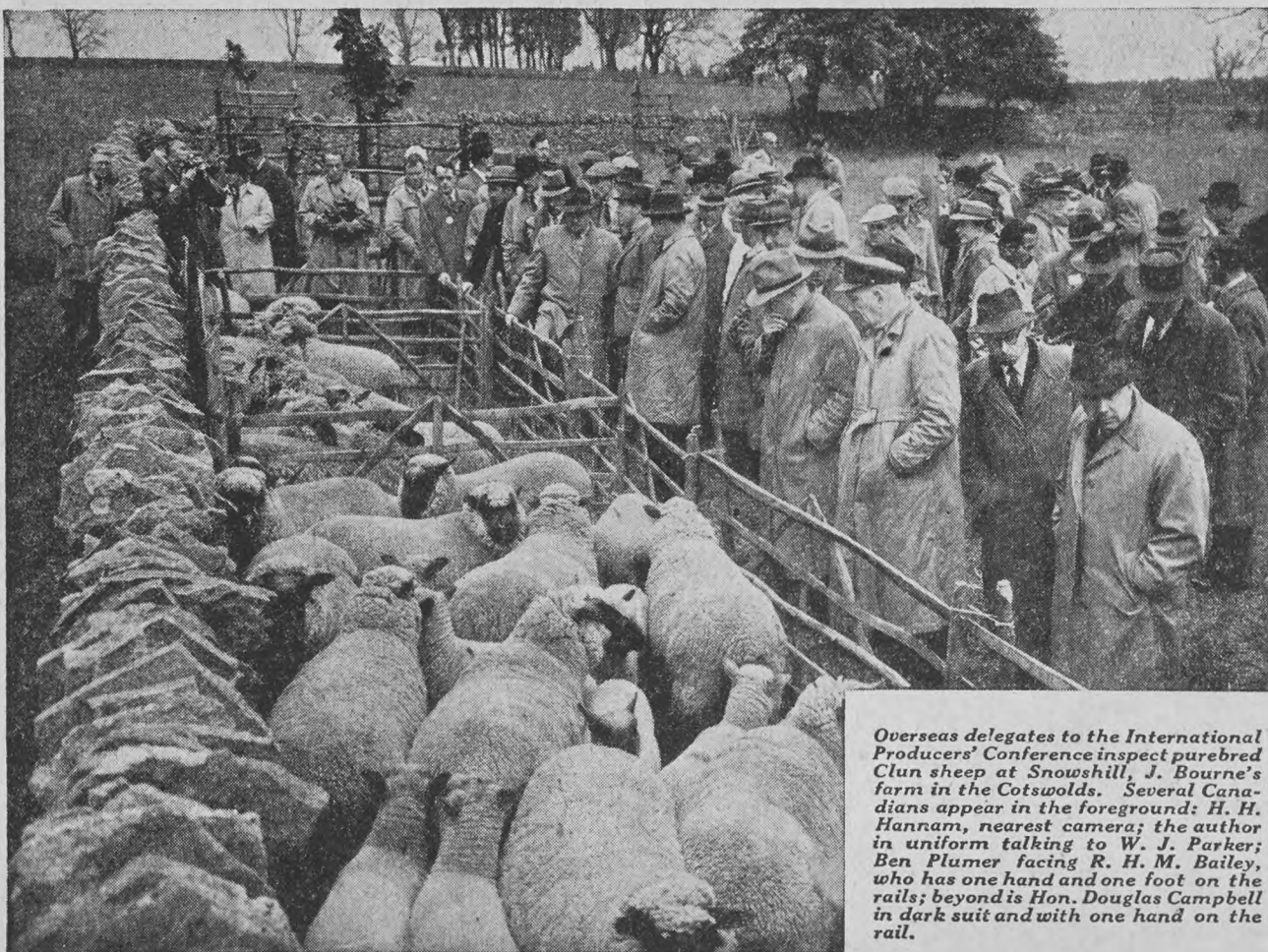
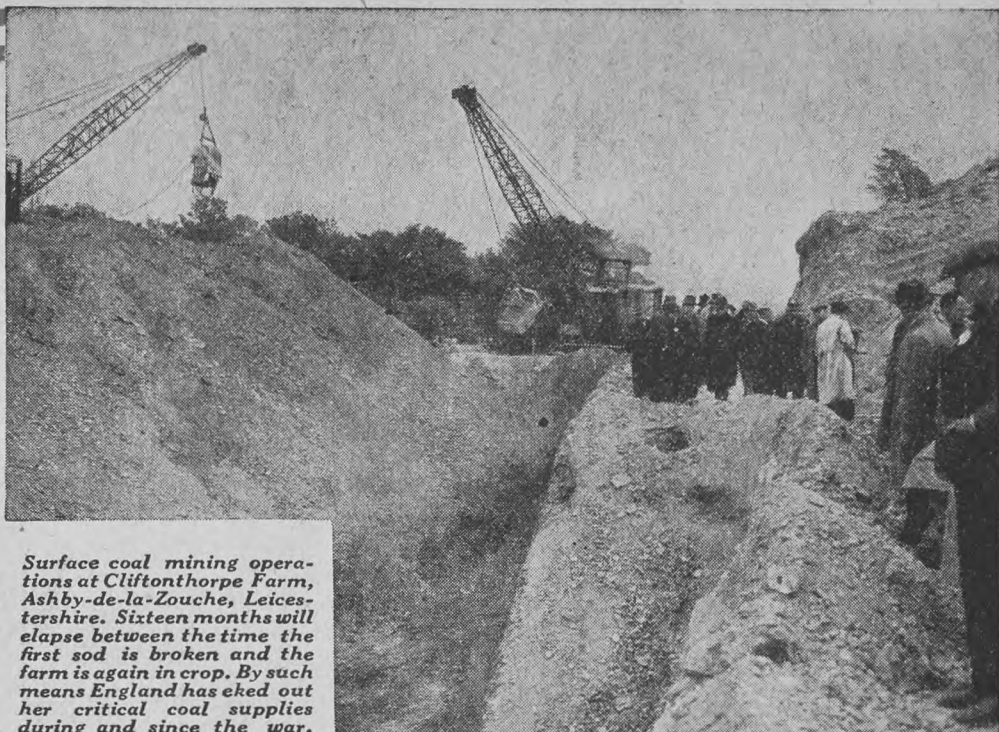
HERE one finds Vilmorin wheat, a new variety developed for combine farming in England, with short, strong straw and non-shattering heads. A grain dryer is a necessary adjunct to a combine in Britain. Custom dryers are springing up all over the country. Dawe has built on his own farm a 16,000 bushel elevator with its own self-contained drying plant. Like most English farms Alrewas Hayes is "on the grid" or network of power lines which covers the country. It is therefore fully electrified and this source of power makes elevator operation cheap.

Last year Mr. Dawe took his grain crop off with three hands; one man on the tractor-combine, one trucking from field to elevator, and an enlisted land girl operating the dryer and elevator. Few Canadian farms can gather a crop as cheaply.

Before leaving the subject of wheat farming consider the case of J. R. Warburton who works 800 acres of rented land at Shillingford, Oxfordshire. Until 1931 Warburton was a sailor. After 15 years' practice his landman's pose is only the thinnest disguise. Big scale operations in Australia and elsewhere inoculated him with the idea of power farming in England. From 1931 till the commencement of the war he worked his holdings, then 500 acres, with a three-year rotation, wheat, barley, bare fallow. There were plenty of neighbors who smiled indulgently, intimating that that sort of thing might be all right on the

Turn to page 58

The route followed.



Overseas delegates to the International Producers' Conference inspect purebred Clun sheep at Snowhill, J. Bourne's farm in the Cotswolds. Several Canadians appear in the foreground: H. H. Hannam, nearest camera; the author in uniform talking to W. J. Parker; Ben Plumer facing R. H. M. Bailey, who has one hand and one foot on the rails; beyond is Hon. Douglas Campbell in dark suit and with one hand on the rail.

Illustrated by CLARENCE TILLENIUS

The Wild Bunch

The Story Thus Far:

OUT of the desert came a solitary rider, Frank Goodnight, making his way towards Sherman City. He was on search in deadly earnest for a man, whom his pal Niles Brand was later to tell him was Theo McSween. Stopping at Harry Ide's ranch he early earned the enmity of Boston Bill. Refusing to join in with either Harry or Boston Bill he went on his way in spite of the warning that any stranger in that country was suspect until he tied in with an outfit. No man could stay in the middle way. Goodnight had his own reasons for wanting to be free.

In Sherman City Goodnight met Rosalia Lind, who owned considerable property and later learned that Boston Bill was in love with her. Then he met Virginia Overman and her father, Hugh, who seemed haunted by some great fear. Goodnight accepted a job on the Sun Ranch with Overman because he found that McSween was there. He tried in every way to make the man feel his hatred. Niles Brand was wounded by a shot that was evidently intended for Goodnight and Rosalia sheltered him in her house. Hugh Overman was shot and Virginia was stunned with grief. Theo McSween died in a fight knowing that the avenger was brother of the girl he had deserted. Frank rode off uncertain of what his plans were to be now. Vengeance turned to ashes for him and he tried to drown his thoughts in drink. Rosalia warned him that he was in great danger. Niles was dead and Rosalia admitted that she knew who had finished Goodnight's friend. He gave her an unopened letter from his sister addressed to Niles, who had been in love with her and asked Rosalia to have it buried with him. Then he struck the trail in a dazed and dreamy fashion, until he encountered Virginia and Bob Carruth. Virginia asked him if he were coming back to the ranch. Goodnight's reply was that he would come. Virginia rode off and Bob remarked that she was not only a good rider but cooler in managing things than a man might think.

* * *

PART V

HE dismounted and pulled his horse into the timber, Goodnight following. They rested back on the ground, a small lane between the trees giving them a view of the road. Somewhere a bird made a fluttering racket in the forest, to which Carruth gave a moment's attentive interest.

"How'd the news of the shooting get to Sun?" asked Goodnight. "It happened at three o'clock. It's eight now. Five hours. Somebody had to carry it through in a hurry."

Carruth had been lying back full length. He sat up now and brought his hands sharply together, the sound of that impact going on and on through the timber. He grinned. He said, "News travels that way," and dropped back again.

"Any travellers come by the ranch in the last two-three hours?"

Carruth said in a wholly lazy voice: "I wouldn't remember about that."

He was, Goodnight realized, the same as the others; he would bear no tales and he would not involve himself in a quarrel before the proper time. He was forty or a little more, stained dark by weather, with a wrinkled face and a heavy jaw and a short-bristled moustache.

"You been on Sun long?" asked Goodnight.

"Twelve years of seein' 'em come and go. Scoundrels and greenhorns and them that wanted adventure and riches, coming out of the East over the mountain. Pretty soon them that stay alive come back in a hell of a hurry. Some—" and he laid the weight of his judgment on the sentence—"stay in the Owlhorns. I sure hope she don't forget that pint."

He closed his eyes, completely relaxed—a man who knew how to take his quick moments of ease when they came. Goodnight rested his shoulders against the tree, smoking through a cigarette. He had his mind wholly on the night's tragedy and its aftermath of little hints dropped by one man or another. According to the barkeep in the Trail, Jack Drew had been in town, he being Harry Ide's rider. It could have



He whipped himself around grasping the reins with a double hold. He swung outward into space and downward.

been the desert outfit which had hunted him and gotten Niles. His presence on Sun Ranch probably had turned him into an enemy according to Ide's way of looking at it.

He searched that side of it carefully, giving it all the weight he could; for in his own mind he thought he knew who had shot Niles Brand. The stableman had made a break in saying: "He was tall. Maybe his nose was bigger than usual." That would be Boston Bill, and Boston Bill hated him for intruding.

One thing did not square. He had not believed Boston Bill would come from behind, or shoot through the window at a sleeping man. It was not as he had read Boston Bill; yet the wind blew that way.

Carruth said, "You got enough lives for a cat," and broke into Goodnight's thoughts. He turned to find the Sun man's grey-green glance on him, amused but penetrating. "Never figured you'd come back from Roselle. Never figured you'd come back from Sherman City this time. You're lucky as hell. No, it ain't luck." His eyes narrowed. "You're cut out for it."

"What for?"

"For the gun. That's it. I been wonderin' what made you smell different. You got somethin' kickin' you in the back, makin' a sore spot. The sore spot will grow. You're goin' to be a bad one, friend." Then he grinned amiably. "We'll see if you come out of the next one. There's another man around here who moves faster than you think." He closed his eyes again and laced his hands across his belly, and seemed asleep, still smiling.

VIRGINIA put up her horse before the hotel and went inside. She had one errand but the accomplishment of it bothered her pride and she fought against her pride and brought her strong will forward until her mind was made up. She said to Barge Baxter, who ran the hotel. "Get me a pint for Bob Carruth, Barge," and waited until he had left the lobby. Then she turned down the hallway, let herself into the rear yard and arrived at Rosalia Lind's porch. She knocked at the open doorway. Her breath quickened and her lips moved together, but this excitement passed and when Rosalia came from the front of the house and faced her, Virginia was composed.

"I wished," she said in an expressive voice, "to say something to you."

Rosalia said, "Come in," and turned back. She walked into the living room, Virginia following. She swung, facing Virginia, and for a moment she watched the other girl. There was no question of her feelings; she showed her dislike and she revealed it when she spoke.

"Glad you came. Sooner or later I would have had to come to you."

Virginia said: "Who was the man killed?"

"Niles Brand, Frank's friend."

Virginia frowned. "I didn't know about him. How did he get into it?"

"It wasn't Niles they were after."

"That's what I wanted to know," said Virginia Overman. "The bullet was meant for Frank, and hit this other man?"

"Yes," said Rosalia.

"Was Frank in the room at the time?"

"No. He slept here last night."

Virginia showed the effect of the answer by a flattening of her lips. She had been hurt, and the knowledge of that pleased Rosalia and made her smile. She was a cool as the woman who had come here to face her down—she was as rough a fighter as she had always known Virginia Overman to be. She had no illusions concerning Virginia Overman, no liking and little tolerance. Therefore it satisfied her to see the other woman betray her feeling.

"I wish you hadn't told me that," said Virginia. "It wasn't necessary."

"It is what you came to find out, wasn't it?"

"No," said Virginia.

"Then why did you come?" insisted Rosalia, harsher with her words.

"Was Boston Bill in town last night?"

"Yes," said Rosalia.

"When the shot was fired?"

Turn to page 48

By Ernest Haycox



Kathleen to Burwash Landing

By H. S. FRY

Photos 1 to 9, courtesy Northwest Air Command, Edmonton.
Photos 10 to 12, The Country Guide.

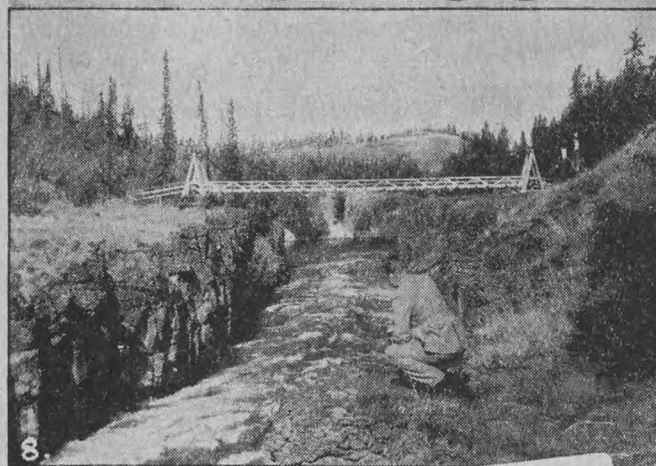
An account of two side trips one hundred miles west of Whitehorse, Yukon Territory -- and of a would-be fisherman

THE Country Guide for October and November, 1945, carried two articles on Yukon Territory and the vast undeveloped country between Edmonton and Whitehorse. The first of these dealt with a visit to the new Dominion Experimental Sub-station established 103 miles west of Whitehorse at Mile 1019 on the Alaska Highway.

While W. R. Leslie, Superintendent of the Dominion Experimental Station, Morden, and I were at Pine Creek (location of the Sub-station), we were fortunate in being able to accompany J. W. Abbott, Superintendent of the Sub-station, on a visit to Burwash Landing, about 85 miles northwest of the Sub-station, where he hoped to locate and inspect some cattle reported to be kept by Jacquot Bros. at their trading post.

The weather was overcast and some rain was falling as we left the farm one morning, headed westward through the Dezadeash Valley. Three miles from the farm we made a stop at Mrs. MacIntosh's trading post. This lady, whose husband had been a mounted policeman, and who was herself a graduate of one of the great United States universities, had been in that country for quite a few years and apparently likes the life, in spite of its loneliness. She made her living from

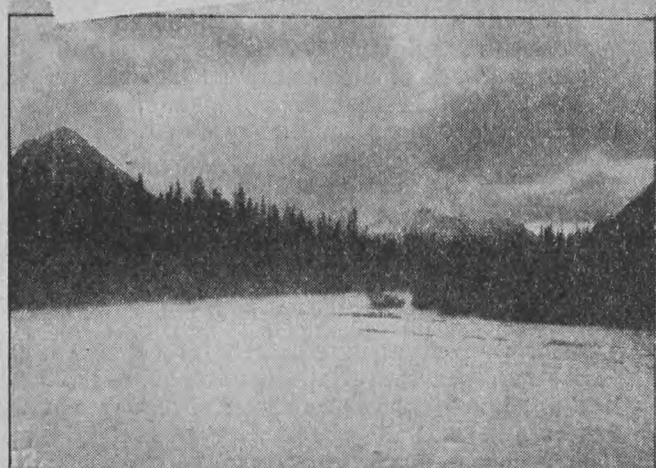
Turn to page 33



8. Miles Canyon, near Whitehorse, on the Lewes River.



10. Fishing in the swift Kathleen River.



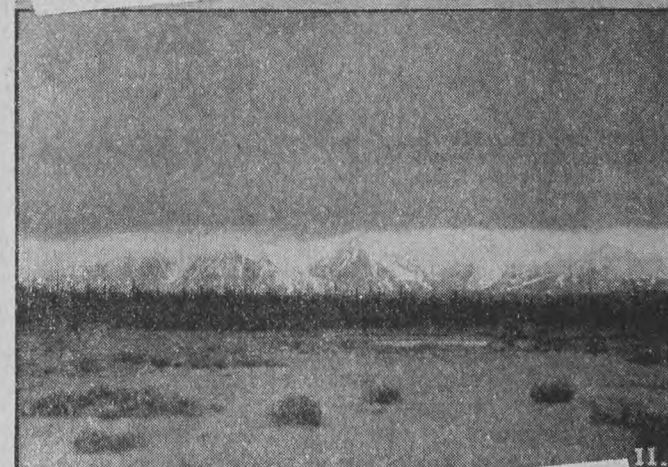
12. Storm over the mountains at Kathleen River.



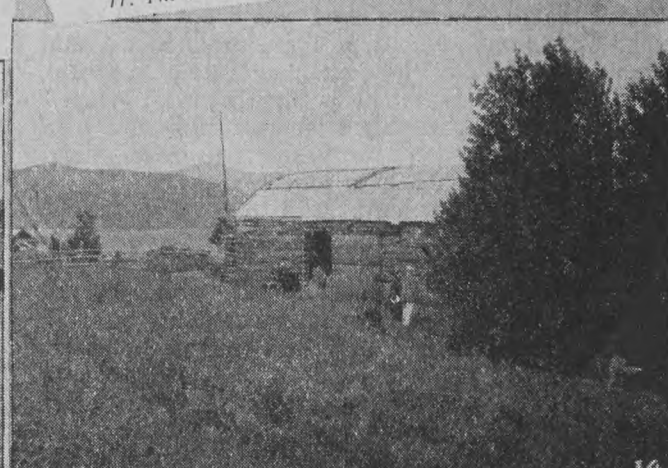
13. Cattle at Jacquot Bros. Trading Post, Burwash Landing.



9. Parts of the Highway go through very mountainous country.



11. The St. Elias Mountains from near Lake Kluane.



14. Rye field and the oldest barn in the Yukon, at Jacquot Bros.

Rachel

by

VICTOR ROUSSEAU

A deeply moving love story from old Quebec



"So now thou hast seen my sister, Jacob," she whispered. "I love thee best, Leah," he answered.

THE prelude to the old priest's story had been a tragic affair blazoned in an American newspaper which found its way with frequency across the Canadian boundary. It was a case of unrequited love and a marriage of rank.

"Ah, these American tragedies!" said the priest, shaking his head mournfully. "How dreadful they seem to youth, and how we grow accustomed to the trials of life when we grow older! What an inestimable blessing is faith, Monsieur! What an inestimable things that happened when I was a boy, of broken vows and hearts, and then I see these heroes and heroines in middle life, contented, patient, faithful. And it is the faith that heals these wounds! When I read such stories as this I wonder little that men and women tear each other's hearts to pieces, when they have not the faith to sustain them."

It was in the warm autumn of 1854 (he said) that Monsieur Jacob rode along the north shore of the St. Lawrence, with his saddlebags full of samples of merchandise from his brother's warehouse in Quebec. This was the young man's first business journey, and never had such sales been made before. Monsieur Esau, his brother, dealt in fine linens and cloths, fresh from the looms of France, and these were always in demand among the ladies of the seigneurs; but now each farmer's and each fisherman's wife was just as eager to buy.

"Certainly, Monsieur, my wife is now as good as any other man's," the habitant would say. "Are we

not all equal now, under God, in Quebec Province? Then my wife must have napkins and tablecloths, as Madame would have."

The abolition of the seignories, with their old feudal rights, by parliament that year, had given a great impetus to trade throughout the Province, and everywhere the merchants were discovering new customers. No longer need the poor habitant bring his grain to his lord's mill, leaving a tithe for the grinding; and his few barren acres, once rented by his seigneur's grace, were his for freehold.

The leaven of democracy had permeated Quebec. The humblest felt himself equal to the best. Some, who had raised themselves by their own enterprise out of the ruck, looked the seigneur in the face boldly and passed by with hat uplifted. Such a man was Charles Tremblay. He had already acquired substantial acres of good farming land. He ruled his household firmly. His wife being dead, he had not fallen under his children's sway, but remained master in his house.

The unfriendly said scoffingly that nature had experimented with Leah before she made Rachel, who was younger by one year than her sister. Yet both had the same gentleness of manner; neither was homely, and it would have been hard to tell either apart, unless one had seen them together. But when the moon shines, out go the nearer stars.

Leah was absent that October day when Jacob rode up to the farm-house of Charles Tremblay, with his

full saddlebags, and the guest did not know that Rachel had an elder sister.

All through the evening, while the two men chatted and smoked together, Jacob was casting glances at Rachel. He was a young man, not more than a year out of school, and his elder brother, though kind, had driven him hard. He had seen little of women, except such as came to make purchases at the shop; and Rachel, with her eyes of deep blue and her ebony hair, seemed to him the most beautiful woman in the world. Her skin was warmly white, except her cheeks, which glowed like roses as she sat bending over her embroidery, demurely listening to her father's denunciation of English rule. Those were the days when men still remembered and spoke of Papineau, who had raised the standard of revolt against the home country. Charles Tremblay had been foolish when he was young, and, though his acres had made him prosperous, he had the heart of a rebel still.

While Charles Tremblay raved and denounced, and stamped the floor in fury, once or twice Rachel dared to steal a timid glance at Jacob, and her hands trembled over her embroidery. And Jacob heard hardly a word of all the eloquence, for his heart was beating as tumultuously as hers, and their thoughts were together.

AFTER supper the young man brought out his samples, and Charles, who had taken him to his heart as a proper patriot, gave him a large order, while Rachel bent over the table, running the linen samples through her little hands, which sometimes touched Jacob's and were withdrawn hastily, and then found his by mischance beneath the satins again, a happening which brought new blushes to her cheeks. All that evening they hardly exchanged a dozen words; but when hospitable Charles Tremblay stamped out of the room to find a candle to light his guest to bed, they heard each other's hearts beating in the darkness, and their hands found each other's again, and were linked together, and in a moment Rachel was clasped in Jacob's arms, and they kissed, half terrified, half wild with joy. Then Jacob was following Monsieur Tremblay up the stairs into his room, where he lay all night in a sleepless reverie, hardly daring to breathe, for fear the vision of happiness should leave him.

He did not see Rachel again before he departed, but the next morning, as he rode from the house, he saw a hand wave to him from an upper window. So he rode back to Quebec, with a song always on his lips, and joy in his heart, and the golden visions of youth dancing before his eyes.

Then came the long winter, and Jacob bound to Esau's store, dreamed behind the counter, or, at night, in his little stove-warmed room. The city lay beneath his window, and looking out at night, he would see in imagination beyond the snow-bound hills the little village of St. Joseph, set into the hollows of the Laurentian Mountains. In March he was to go on his round again, for Esau was well pleased with him and he was earning money now. When he returned he meant to stay for a day or two with Charles Tremblay and make his suit secure. At last March came, and before it had gone Jacob was riding out from Quebec, with saddlebags well stuffed, and two nights' vigils before him at farm houses before he reached St. Joseph.

But if the year 1854 had been a prosperous one for trade, 1855 was one of the poorest on record. The habitant had spent his money. The farmer and the fisherman looked at Jacob's samples and shrugged their shoulders. Some other time, perhaps, but now money was scarce, and was a free man better off than a villain if barley brought no more? So not many of

Turn to page 62

Championship Round-Up

"IT was a great Exhibition Season." That's what the breeders and exhibitors said as the "A Circuit" concluded at Regina on August 3 and the "B" Circuit" concluded at Prince Albert on August 10. For five solid weeks the exhibition spotlight was on the "1946 models" in livestock, walking milk factories meat factories and living power-plants.

Herds and flocks from many provinces and states vied for the honors and in point of both quality and numbers, 1946 was clearly the best year in at least a decade. Attendance records were broken at nearly every show. Calgary, which regularly leads in the attendance parade, set a new record with 339,748 paid admissions for the week.

Notwithstanding a widespread sense of depression in the horse business, entries in the horse classes were definitely better than in 1945. Competition in harness classes was extremely keen; at Brandon where the showing of draught horses has been steadier than farther west, the four-horse teams made a class of 11, and the six-horse teams a class of eight. It savored strongly of years past when Brandon was the horse capital of the New West. At Calgary the team classes were equally impressive with 10 four-horse teams and nine six-horse teams entered. The undefeated six-horse team at Brandon, Calgary, Edmonton, Saskatoon and Regina Exhibitions was the entry of MacArthur & Sons of Brandon, a team composed of six spanking Clydesdales, well matched and well driven. The other six-horse team completing the 1946 circuit, was that of Clem Dunham of Fairlight, Saskatchewan, and it was Clem Dunham, incidentally, who qualified for one of the Showring Sportsmanship awards, instituted at Saskatoon this year.

On the circuit as a whole, beef cattle were more numerous than dairy cattle. Sheep and swine classes were consistently strong and light horses were exhibited at Brandon, Saskatoon and Regina. With increasing interest in light horses, there is a growing tendency to give them their own show, apart from the exhibitions.

The All-Western Awards

IT was decided in 1945 to name All-Western winners for the breeding classes in the draught horse, beef cattle and dairy cattle sections and thus give recognition to those animals which were consistently successful at several or all of the five Exhibitions comprising the A Circuit, namely, Brandon, Calgary, Edmonton, Saskatoon and Regina. Such a study had the approval of the Western Association of Exhibitions; and the results of the 1946 analysis is offered herewith as a brief review of the season's winnings. Obviously there is the chance of some injustice; certain animals of outstanding merit, for example, might attend only one or two exhibitions and fail to secure as many points as less meritorious individuals who complete the circuit.

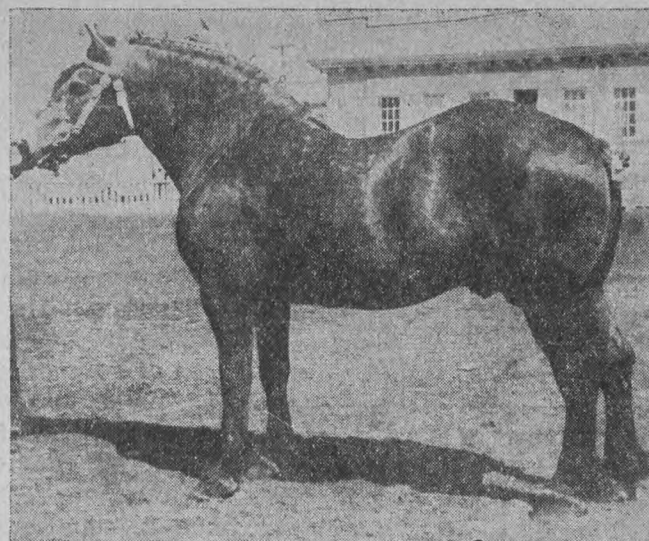
Mention might be made of certain notable champions which were shown at one exhibition only, such as the Holstein bull, Westland Hayden Monarch shown at Calgary, by Hays Ltd.; the Ayrshire bull, Strathglass General's Valour, shown at Calgary by Hodgson and Borrett; the Clydesdale stallion Massed Review shown at Edmonton by W. MacDonald; and the Yeabsley-owned Jersey cow, Mountain View Jester's Molly, which won the Jersey female cham-

pionship at Calgary for the third consecutive year. Notwithstanding the limitations, however, such a review seems to have a good deal of value in directing attention to animals which have accumulated honors in different competitions and under different judges.

In making this review, five points were allowed to an animal winning first in a class having five or more animals in it, with four points for a second prize, three for third, two for fourth, and one for fifth. If there were only three animals in a class, the first prize winner was given three points, the second prize animal two points and the third prize entry, one point. For a grand championship, an animal qualified for five points additional and for a reserve grand championship, three points additional.

Shorthorns Stand Out

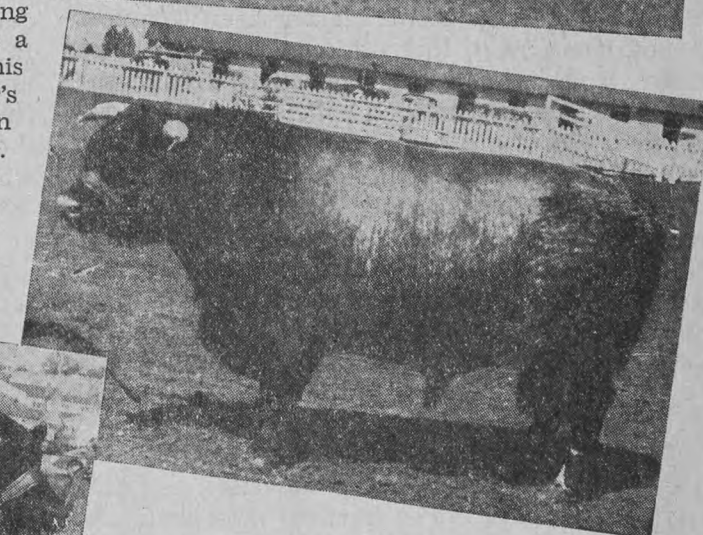
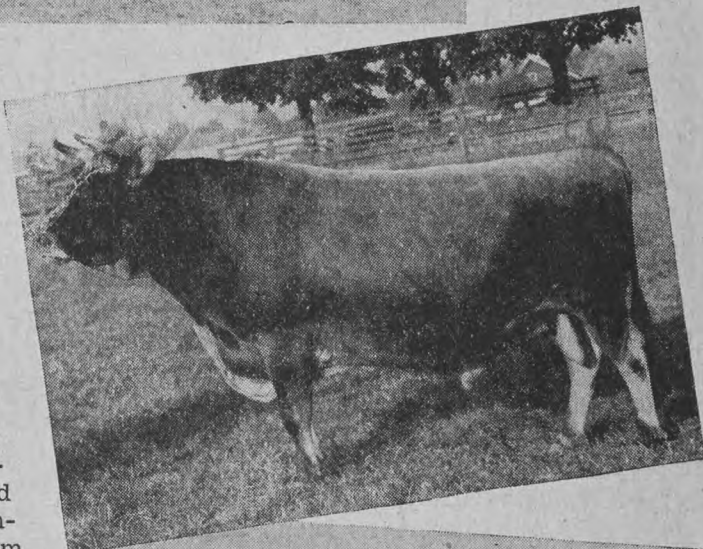
CONSIDERING the exhibition circuit as a whole, Shorthorns made the most spectacular showing. At Calgary, the smallest class for Shorthorn females had ten entries and most classes had fifteen or sixteen individuals. Four herds from Ontario, one from Missouri and numerous entries from the mid-western provinces made for big and excellent classes at every show. The good American herd from Merryvale Farm, Grandview, Missouri, was at the Western Canadian Exhibitions for the first time, but met with singular success. Perhaps the sensation of the Shorthorn shows was the Merryvale bull, M. F. Goldfinder, a roan which was pronounced one of the best individuals seen at the Western Exhibitions in many years. This thick, low-set, good-headed bull was undefeated for the highest bull honors at each of the five exhibitions and easily qualified for the All-Western Shorthorn bull championship. Merryvale Farm also had All-Western honors for senior yearling bull, junior yearling bull, junior yearling heifer, summer yearling heifer and heifer calf. The honor in the summer yearling bull class was won by Killearn Norseman 37th a Gallinger-bred son of imported Norseman. This beefy young bull went through Mr. Gallinger's sale in May and was bought by W. A. Dryden & Son of Brooklin, Ontario, in whose name he was shown. The high-scoring bull calf was Majestic Remembrance shown by MacFarlane and Edwards, Ailsa Craig, Ontario.



Left: Justamere Nixy, Grand Champion Percheron stallion at Calgary, Edmonton and Regina. Owned by Justhome Ranch, Cochrane, Alta.

Immediately below: Lindell Lady's Royal, undefeated Jersey bull on the western show circuit in 1946. Owned by Bellavista Farm, Milner, B.C.

In centre of page: Rockwood Bonerges Posch, Grand Champion Holstein bull at Brandon, Saskatoon, and Regina. Owned by Rockwood Farms, St. Norbert, Man.



Above: Merryvale Goldfinder, undefeated Shorthorn bull on the western fair circuit, 1946. Owned by Merryvale Farm, Mo.



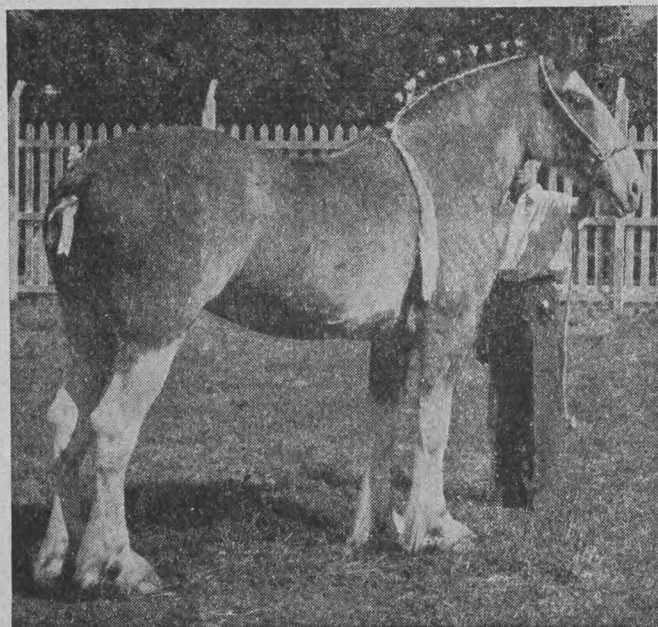
Above: Bandolier Blackcap 5th, Grand Champion Aberdeen-Angus bull at Brandon, Calgary and Edmonton. Owned by Geo. H. Jones, Winnipeg.

Left: Gowan Glen Orange Blossom, Grand Champion Clydesdale mare at Saskatoon and Regina exhibitions. Owned by J. W. Cruickshank, Maidstone, Sask.

The All-Western championship distinction for Shorthorn females goes to the white senior yearling, Eldorado Jilt, the property of F. H. Deacon & Son of Unionville, Ontario. This heifer secured four grand championships at five exhibitions. Leeland Roan Lady 39th won the highest score in the cow class for M. H. Lee, of Highgate, Ont., although the same cow was obliged to take second place to William Wilkinson's Bridekirk Queen at both Saskatoon and Regina. Just one point behind the leader in the heifer calf class was the Searle Farm entry, Searle Clarina.

Turn to page 31

An evaluation of some of the leading animals on the show circuit which has just come to a close. From the note book of Prof. GRANT MacEWAN



THE Country GUIDE

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No. 9

Bilateral Agreements

It must be remembered that a socialist government is in power in Britain, that it believes in national planning and that in national planning it includes import and export trade. The wheat deal with Canada and the bacon deal with Denmark are outcroppings of this policy. As to the wheat agreement, full details of it are given and comments made thereon elsewhere in this issue. The bacon deal may have had some international politics behind it. Russia has completed a trade arrangement with Sweden in which Sweden has granted her credits of \$250 million. This means a definite re-orientation of Sweden's trade eastward. Denmark was also approached by Russia with regard to bacon, her chief export, but the British agreement keeps Danish trade oriented westward.

Bilateral trade agreements are a divergence from the spirit of every international move that has been made regarding postwar trade from the Atlantic Charter down to the present. The Charter envisaged the removal of impediments from the movement of goods. Bretton Woods provided financial machinery for the reconstruction of war devastated areas, and the promotion of trade on a world basis. The Food and Agriculture Organization was based squarely on the idea of the free movement of food products as needed from surplus to deficit areas.

This free and unhampered outlook for postwar rehabilitation and trade has been the most hopeful feature of international relations since the outcome of the war was removed from the doubtful column and such policies could be considered. World prosperity can be fully restored, or rather established, only on that basis. World peace can be durable only if it is buttressed by world prosperity, which means food, clothing, and shelter for the masses of humanity, with a growing share in the other amenities of a fuller life. These bilateral agreements cut across the lines of progress that have been mapped and blueprinted at one international conference after another.

The wheat agreements have been received with misgivings by many wheat producers. Their misgivings are based on a variety of reasons and motives, among which, however, there is a large area of agreement. The vast majority of the farmers of this western country are internationally minded in matters of trade. They are fully convinced that the widest possible measure of freedom of trade is necessary for the prosperity, not only of themselves but also of the world in general. They instinctively distrust any move that hampers the free movement of goods between nations and this means that they would sooner see postwar developments proceeded in harmony with the spirit of the Atlantic Charter, Bretton Woods, and F.A.O., which lead to clearly discerned objectives, than see detours into what may turn out to be blind alleys.

Dominion Day

The Dominion of Canada had a natal day. It was born on July first, 1867. For seventy-nine years it has celebrated its birthday on the First of July, which, in Canada, has been known as Dominion Day.

On the fourth of April last the Commons rushed through a bill to change the name of Dominion Day to Canada Day and sent it up—or across—to the Senate. There it languished for over four months. Finally the Senate sent it back to the Commons with the suggestion that the name selected should be The National Holiday of Canada. Some think that it was an inane suggestion. But perhaps it was an adroit political move to suggest an utterly ridiculous alternative.

This is still the Dominion of Canada. The term Dominion, however, does not connote a condition of subserviency. Canada is as free and independent as she wants to be. The members of the British Commonwealth of Nations were declared by the Statute of Westminster to be "autonomous communities within the British Empire, equal in status, and in no way subordinate one to another in any aspect of their domestic or external affairs." The symbol of unity of the British Commonwealth of Nations is a common allegiance to the crown. It is true that there still remains in Canada's case a few vestigial remnants of colonialism, such as the appeal in civil cases to the law lords of Britain and the amendment of the B.N.A. Act by Westminster on recommendation of the Canadian Parliament. These should have been cleared away long ago and could be cleared away in a matter of weeks. In fact Westminster would be glad to be rid of them.

If the Canadian Parliament had taken time to get these tag ends amputated it would have been better employed than in tinkering with the traditional name of the national holiday. The term Dominion Day is a handy one. It rolls off the tongue easily. It is embedded in the short but proud traditions of this country. It is part of the Canadian idiom. When the Bill was in its second reading a motion was made, but defeated, that it be given a six months hoist. It would be a good idea, now that this particular chicken has come home to roost, for the Commons to give the Bill a six months hoist and then forget it.

Farm Mortgages

A statement emerging from Washington, and quoted with some gusto, says that American farmers have reduced their mortgage indebtedness by more than \$1,500 millions since 1940. In the same time overall farm assets in the United States increased by about \$47,000 million of which \$27,000 million is represented by real estate. The balance covers livestock, machinery, crops, and accumulated savings.

It is a favorable picture but in many aspects it is a boom picture. The tremendous increase in the value of farm real estate indicates a land

boom. A lot of land has changed hands at greatly increased prices. The tendency of this land movement would be to increase mortgage indebtedness, especially where land values are very high. On the other hand many farmers with increased income reduced their mortgages. On balance mortgages have been reduced by a billion and a half.

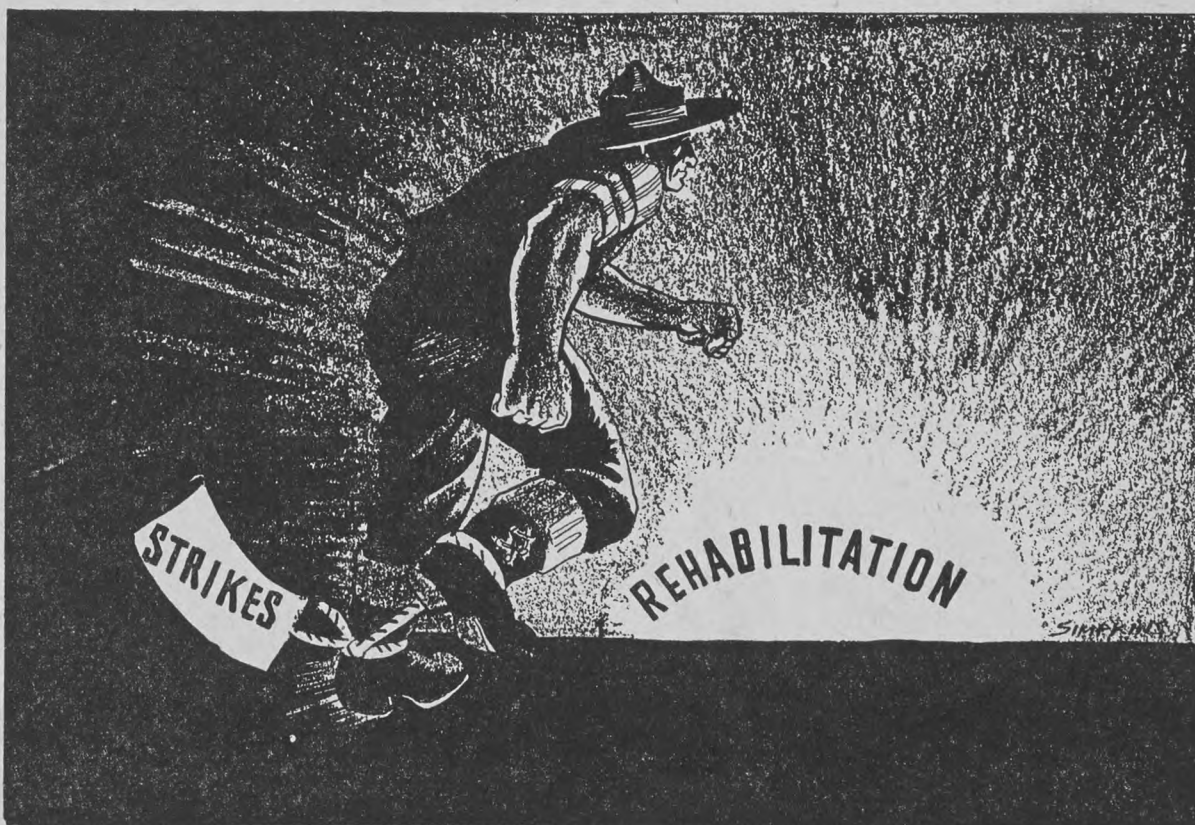
A more favorable position is presented by the farm mortgage position in the three prairie provinces. In 1940 the farm mortgage indebtedness here was placed at about \$750 million. By the end of 1945 this sum had been reduced by \$450 million, or 60 per cent. This year farm income will be higher than last, because of a larger wheat crop at higher prices. A further substantial reduction may therefore be looked for. Prairie farmers have spared themselves the disaster of a land boom such as occurred in the inflation period associated with the first world war. Instead of getting further into debt they have been getting out of it. This applies to current as well as mortgage indebtedness.

Higher prices for farm products are generally accompanied by higher prices for what the farmer has to buy. On that score his financial position is not generally as rosy as the higher prices he gets would seem to indicate. But this does not apply to mortgage debt. Mortgages are much more easily disposed of when prices are reasonably satisfactory and prairie farmers have been wise in liquidating them.

The Right To Strike

Speaking in Calgary, John L. Lewis, American labor leader, said that the right to withhold his services differentiates a freeman from a serf. It is a trite thing to say but it is true nevertheless that rights carry responsibilities. The question has arisen in a great many minds as to how far the privileges of free men entitle them to impose hardship and privation on other vast sections of the people.

Some unions have become so powerful, or occupy such strategic positions, in many cases both, that when they strike it is a national calamity. An epidemic of such strikes has occurred in Canada and the United States. They have been conducted in coal, lumber, steel and other basic industries. In each case the effects fanned out until those who are on strike formed a minority, in some cases a small minority, of those who suffered. The threat of a railway strike in the United States brought that nation of 140 million people face to face with complete economic paralysis. The same grim prospect may face Canada in the near future. The steel strike, at this writing, threatens as only one of its re-



Hobbled

sults to paralyze the building industry when thousands of Canadian families are literally homeless. Another result is that thousands of workers outside the steel industry have been thrown into idleness and deprived of the free man's right to earn a living.

Responsible labor leaders now oppose the idea of the general strike such as occurred in Winnipeg in 1919 and in Britain in 1926. Such strikes are, to say the least, bad strategy. They look so perilously like revolution that they antagonize public opinion which cannot, in the final analysis, be ignored. It is also recognized as bad policy to strike at your enemies through your friends, which happens when unions with no immediate grievance, down tools in sympathy with a striking union.

A strike by a powerful union in a great basic industry which spreads paralysis through the nation or a section of it takes on some of the aspects of a general strike. Temporarily at least, the government which should be supreme, is rendered powerless to cope with the emergency, as is the case in the steel strike. Furthermore, in such cases labor is striking at its enemies through its friends, since so many who are not immediately involved in the dispute are made to suffer.

If the right to strike means the right to paralyze the entire industrial life of the nation or any considerable part of it, then the right to strike is open to question. The strike may still be necessary in settling labor disputes, just as in the early stages of civilization it was necessary to carry a club. In the totalitarian states it is not tolerated. In democratic states the strike as a weapon will eventually be discarded. Labor disputes will be settled by agreement or by tribunals. This is now being done in many cases without recourse to strikes and there is a growing tendency, when strikes are called, for labor and management to finally yield to persuasion, agree to accept the findings of a tribunal, and resume operations.

This particular epidemic of strikes is directly due to rising prices. If the price level could have been stabilized, here and in the United States, the epidemic would not have occurred. Those who have been yelling their heads off for the removal of controls should take note of the grief which has followed only a partial failure to hold the price line.

A Place For Investment

There will be no Victory Loan Campaign this fall. The budget may have provided little comfort for those who expected marked reductions in taxation but at least it made another large loan unnecessary until, perhaps, next spring. The habit of saving money and investing it in government securities is a good one, however, and should not be broken. A substitute for Victory Bonds and War Savings Certificates has therefore been announced. Beginning about the middle of October Canada Savings Bonds will be placed on the market. There will be no fanfare or high pressure selling campaign nor will there be the same patriotic motive for buying them. They are looked upon primarily as an investment. In industry arrangements will be made for buying them on the payroll deduction plan such as was followed with Victory Bonds. They will also be available through banks and other financial institutions which means that they will be available for the public generally.

The vast majority are not well informed on investment matters. As a direct result far too many become victims of unscrupulous stock salesmen whose one object is to put them through the wringer and rob them of their savings. Every man, woman and adolescent who has savings should know that there is a place where they can be invested with the maximum amount of security and a fair rate of interest. The Canada Savings Bond will meet both requirements.

Under the PEACE TOWER

TO begin with, Monty came to Halifax with a bad name. But let me hasten to add that he left town with everyone liking him. Strange stories had reached here ahead of the Mauretania about this man, Field Marshal The Viscount of Alamein. His peculiarities were stressed, his temperament depicted, his general cussedness exemplified. Above all, he was reputed to be against drinking, against smoking, and against women. Turned out to be a lot of eye-wash. Where Monty went, drinks were drunk, smokes were smoked, and ladies were present. In a word: they got him wrong.

First view I got of Monty was in pinhead perspective, as a black dot detached itself from the distance, while the majestic Mauretania unwrapped herself from the folds of fog and steamed majestically into the harbor. There, high on the Captain's bridge, was a dot which in a short while was seen to be the bereted head of the famous Monty. With him also was His Grace the Archbishop of Canterbury.

It was a spit and polish guard of honor that he inspected on the quay, and the military authorities had the big jitters lest anything go wrong. But Monty, with plenty of aplomb by now, stood up in the open top car and let the photographers have a field day as he drove away.

We jumped into an army bus not even as comfortable as a jeep, and had our livers jolted up and down for half a mile or so, till we arrived at Province House, which is what Halifax calls its provincial parliament building. I arrived just in time to see Hon. Angus L. MacDonald, popular Nova Scotia premier, greet Monty.

By now they had got ahead of schedule, so Mr. MacDonald took the Field Marshal up to his own office, the famous office with a fireplace designed by the brothers Adam. But it was not on this 18th century treasure that Monty and Angus L. concentrated; it was a map of Nova Scotia. Monty wanted to know where he was in relation to the rest of the maritimes, and the premier told him. Even in the piping times of peace the old strategist in him wanted to go to work.

At Province House he met the dignitaries, and then he was whisked up to old Dalhousie University. When he drove up to the campus, the hooded and gowned faculty enthusiastically clapped hands. Even a professor can't resist a hero.

It was here that I began to get new ideas about Monty. When he spoke, after a moment's fidgeting with his tunic, he revealed no nervousness. On the contrary, he seemed pretty much at home. He uttered for the first time, his now familiar theme, about the Canadian fighting man. "Terrific," he called him, and the staid audience applauded. Monty has an interesting habit of repeating the last half of a sentence, perhaps out of nervousness, perhaps for emphasis. For example: "The Canadian is a really great soldier—a really great soldier."

His voice was a bit sharp, in harmony with his sharply etched face. Sometimes his quick intuitive glances made you think that if Rommel was the desert fox, then Monty was two desert foxes. And two are always better than one.

Hero of World War I

I had heard Earl Haig in 1925 and his speech was an utter washout. Here was the hero of World War II. I was prepared for a few staccato sentences, a lot of precisionese ritual, and nothing else. I am now voting for Monty, the speaker. Direct, audible, to the point, and above all, yes dear readers, far above all, brief.

Monty was at his best, however, with what we elegantly refer to as old sweats. There was a drum-

head service on garrison grounds, and then the Field Marshal said he'd inspect the veterans. What an inspection it was, too. He overlooked nobody. It was notable that the all-colored branch, the William Hall, V.C. Legionaires, all of whom are Negro, held him for quite a while. William Hall was the third man to win the Victoria Cross, which he did at Lucknow. He was believed to be the first colored man to get it, and his name is revered by the colored vets of Nova Scotia.

Monty stopped once when he spotted the Egyptian medal, and the Khedive Star. This 82-year-old man, standing erect so proudly, had served under Kitchener. Then there were two veterans with the yellow ribbon of the Boxer Rebellion. "I was a bugler in China, sir," he told Monty, "and I ended my military career as a captain in the Canadian army." So it went. One veteran was introduced as a man from Kentville. "Where the apples come from," remarked an aide. "Apples," said Monty, brightening up. "I like good apples."

Monty's chief attractiveness to these rows and rows of old sweats was that he knew his men, talked their language. It was one soldier to another, straight and direct.

Then came the civic luncheon in the Nova Scotian Hotel. Conspicuously absent was the lady mayoress of Kentville, who was not invited because the city fathers of Halifax were under the impression everything had to be stag. Phone calls came to Kentville's mayoress from all over North America on this topic. At that the luncheon was not stag, since two of the orchestra were ladies. Incidentally, Monty was serenaded into the room with the tune, "There's something about a soldier," rather pointedly. At the end of their performance, the orchestra concluded with "When Day Is Done."

Monty made a very effective speech of thanks, when Mayor Ahearn presented him with a silver tray. The Field Marshal called it "a salver," said it would have a proud place in his new home, which would replace the old one. Rather poignantly, he said he had lost all his worldly possessions in the blitz.

In his speech Monty put the OK on the Dieppe raid. Very pertinently he said he felt he was as competent as anybody to talk about it. The Canadians at Dieppe found out what had to be known, before a large scale operation could be attempted. Significantly, he said he personally gave the order, two years later, for the Canadians to go and get Dieppe back. They did.

There are some general impressions I garnered about Monty. He is a little taller than I had fancied, a little huskier. He has an alert face, the quick size-up of a situation. When he doesn't know, he asks questions. He speaks in a sharp but not a harsh voice, almost misses being staccato in his utterance, and as I said before, he repeats latter halves of sentences, when making speeches.

I saw Monty in half a dozen places. He also reposed in his suite, down the hall from my hotel room, and protected by burly provost corps men. The more I saw of him the more I felt sure his faults had been magnified, his virtues minimized. He may be all they say of him. I, however, saw no sign of it. But I, like most people, take a man as I find him. I found Monty quite a man.



Howe

NEWS OF AGRICULTURE

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[Arcady Farm News Photo.
These quadruplets, born on the farm of W. H. Iddings, Irondale, Ohio, weighed 143½ pounds at birth. Herefords—three heifers and one bull—they have since been reported as doing well.

Export of Purebred Livestock

CANADIAN purebred and dairy cattle, to the value of \$11,612,955, were exported to 23 countries during 1945, according to the Department of Trade and Commerce, Ottawa. The Export Division of the Foreign Trade Service reports that of a total of 71,381 cattle involved in these exports, 24,071 head, valued at \$5,161,361 were classed as purebred cattle, the remainder being classed as dairy cattle, presumably unregistered purebreds or grades, for milking purposes.

In addition to the above number, the Department reported the export of 9,801 purebred and 24,847 head of dairy stock during the first five months of 1946; and comparison is made with the fact that in 1930, exports of purebred cattle numbered only 3,017 head valued at \$602,689, while shipments of unregistered dairy stock in the same year numbered only 9,257 head valued at \$890,687.

Last year, too, 3,470 purebred sheep, valued at \$93,163; 862 purebred swine valued at \$33,520; 26,650 purebred poultry valued at \$61,879; and 848,880 baby chicks at \$115,218 were exported.

IN May and June of this year, 180 Holstein heifers and 12 Holstein bulls were exported to the United Kingdom in two shipments, the combined value of which approximated \$120,000. In addition to these two shipments, representatives of the British Friesian Cattle Society of London, England, have been in Canada, and have recently completed the purchase of 220 head of outstanding Canadian Holsteins, the combined cost of which is reported by the Holstein Friesian Association of Canada at more than \$500,000. The average price paid at the farm, according to the Association, was the record breaking figure of \$2,037, which will mean a cost delivered in Great Britain averaging \$2,300, when handling and transportation costs are added. Breeders in all parts of Great Britain will incorporate these Canadian Holsteins into their herds, which will be a source of intense satisfaction to Holstein breeders throughout Canada, especially those in the Provinces of Ontario, Quebec, Manitoba and Alberta, from whose herds this large shipment was drawn.

The Canadian Association reports this purchase as representing the highest average price or total ever paid for any single shipment of Holstein Friesian cattle exported from Canada, while the animals included in the shipment had to meet the highest specifications ever established for a large scale importation. Milk and total butterfat records had to be at least 25 per cent above Record of Performance requirements on the three nearest female ancestors of all the bulls chosen, and on the two nearest dams of heifers selected. Service sires had to meet the same requirements

as bulls purchased. Furthermore, no record, regardless of total milk yields, was considered unless it represented a fat test of 3.7 per cent. The entire group of 220 included 54 bulls, eight milking heifers, 59 bred heifers and 99 open heifers. The high price for an individual animal was \$10,000, given for Gerben Again, the two-months-old daughter of Alcartra Gerben, world champion yearly butterfat producer (1,409 pounds fat) and sired by Hays Thirty-Nine Steps, whose dam, Hays' Snowden Lady has a 10-lactation total of 150,121 pounds of milk and an average fat test of 4.12 per cent butterfat. The top-price bull in the shipment was Glenafton Rag Apple Admiral, sold by T. O. Dolson, Brampton, Ontario, for \$7,500. This three-year-old bull is sired by the three-times All-Canadian aged bull Montvic Rag Apple Marksman. The latter had six sons in the shipment, including the three highest priced bulls.

The purchase by British breeders will go forward in three shipments, a second one later in the fall and a third next spring, delay in shipping younger heifers being due to a desire to breed them to outstanding sires before shipment. Eighty-six breeders contributed animals, the largest consignment coming from Rockwood Holsteins, St. Norbert, Manitoba, consisting of 19 head, among which was the first prize heifer calf and reserve junior champion at Calgary and Edmonton.

OF interest also is the fact that the first export shipment of Canadian cattle ever made by air left Malton airport near Toronto on August 1 for Cuba and Puerto Rico. The shipment consisted of seven purebred Holstein bulls for the Cuban Minister of Agriculture, and one purchased by a private breeder in Puerto Rico. All of the bulls were around nine months of age, and reached their new owners approximately 12 hours after the take-off. Costs of this method of shipment are approximately the same as by means of a long slow journey by ship through stifling tropical heat. The shipment was made by Hays Limited of Calgary and Brampton, Ontario, and the cargo line is operated by a group of ex-combat pilots.

A recent report from the commercial counsellor at the Canadian Embassy, Mexico City, to the Department of Trade and Commerce, Ottawa, says that Canadian cattle herds recently inspected by Canadian livestock experts are in thriving condition. Cattle exports from Canada to Mexico in 1942 were only 30 head, valued at \$5,600, and in 1943 only 15 head for \$4,650 were sent to Mexico. In 1944 the number rose to 694 head valued at \$129,775, while last year a total of 1,316 head valued at \$267,115 went forward. Mexican cattle



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raisers and importers have indicated that they prefer Canadian cattle to those from the United States, since our cattle produce more fat without lowering milk production. The greatest demand exists for first class heifers in calf about six months at the time of arrival, and in good flesh.

Canadian Holsteins and Jerseys are

MacEwan New Manitoba Dean

THE Dean of Agriculture and Home Economics at the University of Manitoba, commencing with the academic year soon to open, will be J. W. G. (Grant) MacEwan, for the last 12 years Head of the Department of Animal Husbandry at the University of Saskatchewan, Saskatoon.

The new Dean will also be director of the University farm of between 1,000 and 1,100 acres, which will mean that once again, after several years, the entire farm operation at the University will become the full responsibility of the Faculty of Agriculture. Professor MacEwan will succeed Dean A. V. Mitchener, who for the past eight or nine years has held the dual position of Professor of Entomology and Dean of the faculty. Following his resignation as Dean last spring, Dean Mitchener has continued to carry the responsibilities of the Dean's office until his successor could be appointed. He will now devote his full time to the Department of Entomology.

Announcement of the new appointment, made by Dr. A. W. Trueman, President of the University, on August 23, carried also the promise of interesting and important developments in the Faculty of Agriculture and Home Economics. It has been understood that for the past year or more the Board of Governors of the University have been engaged in a careful examination of the work of the Faculty and its needs in view of the changing conditions in Manitoba agriculture with which the industry is presently faced.

Dr. Trueman's announcement reports the adoption of a comprehensive program for the faculty by which the University will seek: "(1) closer co-ordination of the University farm with the teaching departments; (2) the extension of experimental and research work; (3) the extension of the staff of the faculty; (4) the expansion of the work in agricultural engineering; and (5) the provision of funds which will make it possible for members of the staff to maintain contact with rural Manitoba."

The President's statement also says: "It is the Board's intention that this program be proceeded with at once, subject to the necessary delays which may be created by present difficulties in securing staff and equipment."

Manitoba's new Dean of Agriculture possesses many of the qualifications necessary for his new duties. Unusually well-known throughout all of western Canada in all livestock circles, he is much in demand as a livestock judge, and speaker at farm meetings; and his broad interest and apparently boundless energy have drawn him into many of

well liked, and it is the opinion that "Canada can supply the highest quality Jersey cattle, both bulls and cows, for breeding purposes, though the United States floods Mexico with animals of a poor quality at low prices. There are no cattle can compete with those shipped in from Ontario, Quebec and British Columbia."

what might be called extra-curricular activities. He is a director of the Royal Bank of Canada; was for two years manager of the Saskatoon Exhibition; is chairman of the Murray Memorial Fund Committee established to secure a memorial library in honor of the late Dr. Walker C. Murray, first President of the University of Saskatchewan; is a past president of the Western Canadian Society of Animal Production; and is chairman of the Board of Review of the Prairie Farm Assistance Act. As head of the Animal Husbandry Department at Saskatoon, he has been responsible for the operation of the University farm, which involves the management of a good sized herd of Short-horn cattle, a small herd of Holsteins, a large herd of purebred Yorkshire swine, and a band of between 300 and 500 sheep, as well as a stable of 30 or more purebred Clydesdale horses. Academically his interests lean to a special interest in animal nutrition and in livestock matters generally his outlook is practical though sometimes not conventional.

On the other side of the picture is to be found a keen interest in beef, the end product of livestock production. This interest stems from a special course which he took at the Iowa State College, Ames, Iowa, in his graduate days, and led eventually to the founding, at Saskatoon, of the first Canadian meat show which is held annually in December at Saskatoon.

A point of interest in this new appointment is the fact that Professor MacEwan is Manitoba born. His father settled at Brandon in 1889, from whence he followed the new frontier to Melfort, Saskatchewan, 26 years later, in 1915. It was in Melfort that Grant MacEwan completed his schooling, and from the MacEwan farm there he went to the Ontario Agricultural College, from which he was graduated in 1926. Returning to Saskatchewan, he spent a little more than a year with the Livestock Branch of the Saskatchewan Department of Agriculture, proceeding in the fall of 1927 to Iowa State College for graduate work. After a year there he returned to Saskatchewan to an appointment at the University of Saskatchewan arranged by the late Dean Rutherford. He continued as Assistant Professor until 1934 and, following the appointment of Dean A. M. Shaw to the Canadian Wheat Board and later to the Dominion Department of Agriculture at Ottawa, Professor MacEwan became head of the Department of Animal Husbandry. For several years, also, he was Director of the School of Agriculture at the University. This latter responsibility was relinquished two years ago.

Now entering his middle forties and still possessing in very large measure that combination of enthusiasm and energy generally associated with a more youthful age, Professor MacEwan will bring with him to his new and more responsible position the good wishes of a host of friends and well wishers. Possessed of a ready pen, he has written three books on Canadian agriculture and numerous magazine articles. He is fond of talking with old time stockmen and pioneers, and finds it easy to reach common ground with farmers, either in a discussion of farm problems or the common interests of those who have the agriculture of western Canada at heart. Fond of light horses and at home in the saddle, he generally has a saddle horse somewhere not far away.

Canadian Versus Danish Bacon

IN the year 1921, Danish bacon averaged 17 shillings per long cwt. (112 lbs.) above Canadian bacon on the British market, and in at least one month of that year (April) sold at a premium of 47 shillings per cwt. over Canadian bacon.

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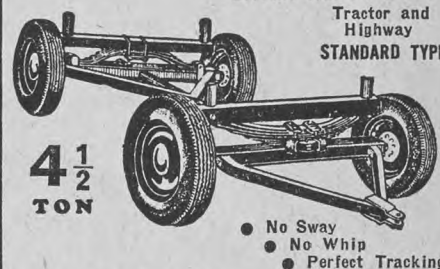
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ing and several years of voluntary rail grading, Canadian bacon immediately prior to World War II was discounted eight to ten shillings per cwt. under Danish bacon on the same market. As the result of long time agreements with the United Kingdom by both Canada and Denmark, Canadian bacon landed in Britain costs 4s 6d per cwt. more than Danish from April 1 to July 31 this year. From August 1, 1946, to September 30, 1947, Danish bacon will cost 5s 6d more than Canadian bacon, while from October 1, 1947, to December 31, Canadian bacon will cost two shillings more than Danish bacon landed in Britain. For the following year, 1948, the minimum guaranteed price for Canadian bacon is 11s 3d higher than the minimum Danish bacon price.

These figures show that the position of Canadian bacon has vastly improved on the British market on the basis of price comparison with our chief competitor, Denmark. The position with regard to volume is similar. For the three years prior to World War II, Canada supplied approximately 19 per cent of British bacon imports, as compared with slightly more than 47 per cent supplied by Denmark. In 1945, Canada supplied 81.3 per cent of British imports, while Denmark, which had been excluded from the British market during the war period, supplied only 5.4 per cent. By the terms of the agreement existing between Canada and Britain, our commitment for 1946 is 325 million pounds, while in 1945, we have an assured market for 350 million pounds and in 1948 for 400 million pounds.

The British agreement with Denmark, publicized early in August of this year, called for the delivery to Britain of 92 million pounds in 1946, 120 million pounds in 1947 and 224 million pounds in 1948, in which year the estimated

available supply from Denmark it is thought by officials at Ottawa, will be less than half the prewar volume in all probability. This estimate, therefore, tends to minimize justification for any fear in Canada that Denmark's British bacon contract means a less advantageous position for Canadian bacon in Britain, even though Denmark does undertake in her British contract to offer the United Kingdom 90 per cent of her exportable surplus of bacon to the end of the year 1948-49.

Denmark has concluded a two-year agreement with Russia, by which Denmark will deliver to Russia 15,000 long tons of butter, and 8,500 long tons of bacon or pork, at prices which will mean approximately 49 cents per pound for butter, and about 29 cents per pound for bacon. Russia will pay partly in goods and partly in dollars, and this fall, further negotiations will take place between Denmark and Russia for the exchange of further quantities of butter, bacon and agricultural products from Denmark, in return for Russian oilcake and seed grain.

Meanwhile, Canada has been sending forward to Britain during recent months a milder cured bacon than was possible during the war when Britain found it necessary to store Canadian bacon for as long as three months before distribution to consumers. Bacon, therefore, had to be heavily salted and stored in order to stand stock piling in Britain when transportation was uncertain and shipments slow during wartime. Two test shipments of uniform, but still milder-cured bacon, were forwarded from Canada late in June, which were followed by Dr. George Miller, Bacon Specialist of the Dominion Department of Agriculture, who visited Britain for the specific purpose of inspecting these shipments on arrival.

To Restore Beef Price Balance

ANNOUNCEMENT was made by the Canadian Meat Board on August 16 that the relationship of exports to domestic ceiling prices for beef, disturbed by the increase in domestic ceilings authorized on July 26, would be restored by increasing the buying price of better quality of beef for export to the United Kingdom.

New export prices immediately effective were an increase of \$1.00 per cwt. in Alberta and Saskatchewan; \$1.50 per cwt. in Winnipeg and Montreal; and \$2.00 per cwt. in Ontario for choice and good steer and heifer beef. These increases are to provide a floor for the qualities stated at 25 cents below domestic ceilings. For commercial quality beef, a floor at \$1.25 per cwt. below ceilings at all points throughout Canada is provided by increasing the price of commercial quality steer and heifer beef by 50 cents per cwt. in Winnipeg and

Montreal, and \$1.00 per cwt. in Ontario, with no change in existing prices paid for good quality beef in Alberta and Saskatchewan.

Hitherto exporting at 75 cents per cwt. below domestic ceilings, the new export price for good and choice cow beef has been raised 50 cents per cwt. in all price zones, in order to provide a floor price 25 cents below domestic ceilings as in the case of choice and good steer and heifer beef. In all cases, the new export prices were applicable on cattle slaughtered on and after Monday, August 19.

AT a recent conference in Victoria, Australia, of the Primary Producers Union, a federal farm organization representing all Australia, and recognized by both federal and state governments, was formed

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Between 40,000 and 50,000 war brides have come to Canada from the United Kingdom and the European continent within the last few years. For most of them this break with their past will be the great adventure of their lives.

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Address all letters to The Contest Editor, The Country Guide, 290 Vaughan Street, Winnipeg, Man.

Locating Mineral Wealth

Surface prospecting has probably revealed all the important mineral strikes which are likely to be discovered by that method. Geologists have therefore developed scientific methods to discover ore bodies buried beyond the surface prospector's reach

By Prof. E. S. HILLS

THE mineral wealth of the world has been used up of recent years at an ever increasing rate, and from time to time there have been warnings of prospective world shortages of oil, lead, zinc, tin and other minerals. So the continued discovery of new deposits has become a matter of some urgency. But in practically all the major mineral producing countries, except possibly the U.S.S.R., there is no longer any real hope of finding important new ore bodies by the old and simple methods of surface prospecting, because the visible outcrops have by now been worked over at least once.

Fortunately geologists, in collaboration with physicists, have succeeded in devising a wide range of geophysical methods for sub-surface prospecting—methods based on the knowledge that different rocks vary in their electrical, magnetic, elastic and other physical properties.

Not that such ideas are entirely new. Magnetic methods were used to locate bodies of iron ore in Sweden during the eighteenth century, and mariners have known for a long time that the earth's magnetic field shows severe local disturbances at certain spots—such as the isle of Rockall which lies west of Scotland—where the magnetic compass is useless for navigation because the rocks are themselves strongly magnetic. In modern geophysical prospecting sensitive magnetometers are used which permit the measurement of quite small variations in the direction and intensity of the earth's magnetic field of force, so that rocks and ore bodies much less strongly magnetic than iron-ore can be detected and their shape outlined.

In a second type of geophysical prospecting, use is made of the knowledge that buried rock masses, with a density higher or lower than the average, cause a local increase or decrease in the force of gravity. Now determining the value of gravity under the rough conditions of geological field-work required the use of highly sensitive yet portable gravity meters, and there are many calculations involved for each determination. In the end one obtains a map of the earth's gravity field which has then to be interpreted with the aid of geologists, who, from their knowledge of the surface rocks and of those revealed in bores, suggest what geological structures the measured variations in gravity may represent. It is known, for instance, that in many oil-fields the oil is closely connected with masses of rock-salt called salt domes, and rock-salt is a light substance which is readily revealed by gravity surveys. You will note that the geophysical method does not locate the actual oil-pool, but by an indirect approach reveals a structure that is favorable to the occurrence of oil.

GEOPHYSICAL techniques, although developed mainly for economic work, are also available for fundamental research, which may enlarge our knowledge of the structure of the earth and of the processes that have operated within it. For instance, gravity meters have been constructed which may be taken to sea and operated in a submarine, beneath the level of disturbances due to the waves. Dutch geophysical parties have already carried out an extensive survey, especially off the East and the West Indies, which both are chains of geologically young mountains rising as island groups above the ocean floor. The surveys show that in each region there is a narrow zone in which the value of gravity is remarkably low, indicating a great excess of rocks of low density in depth.

This has suggested to some geologists that the mountain chains rise above enormous downward buckles of the earth's crust, extending down for about 30-35 miles. You might picture this concept if you were to take a cake of clay to represent the soft rocks near the earth's surface and place it on the up-turned palm of your hand, which would

represent the harder crustal rocks beneath. If you now squeeze the clay by contracting your hand, it will be squashed up, producing a model of our mountain chain, and your bent hand will represent the crustal down-buckle.

One of the most effective of the geophysical methods of investigation so far developed is the one using what may be called artificial earthquakes. During an earthquake the shocks originating at the earthquake centre give rise to elastic vibrations or waves which are transmitted through the earth and may be recorded at points thousands of miles away on delicate seismographs.

In the seismic methods of geophysical prospecting the shocks are produced by exploding a charge in the area to be studied and the resulting earth waves are recorded on a series of seismographs perhaps half a mile away, which also record the exact time of the explosion. Some of the elastic waves caused by the explosion pass down into the earth and are then reflected back to the surface from layers of dense rocks beneath; some are bent as they pass through strata of different kinds and after travelling along curved paths appear again at the surface and affect the seismographs. It is then possible to deduce the depth and attitude of the different strata.

THIS method is particularly suited to areas where the mineral deposits are in well-stratified rocks. Seismic methods were, for instance, used with outstanding success in the discovery of the English oilfields that were developed during the war years, but they also have many possible applications outside the economic sphere. They've been applied in studying the structure of the edge of the continent of North America, where at about 600 feet below sea level its submerged margin plunges down to the floor of the Atlantic.

In this investigation very ingenious methods were devised to lower the delicate recording instruments on to the sea floor, also to fix their position accurately on a chart and later to recover them again. One might have expected to find in the zone between the relatively high continental mass and the low ocean basin perhaps some great fractures or faults, but in fact the results so far obtained indicate that the old crystalline rocks which form the basement of the continent are merely flexed down, with no sign of large breaks.

Of course, it is hard to get much direct information about the geology of ocean floors, because you have to work from a ship and reach blindly down by some mechanical means through great depths of water to bring up samples. Quite recently, however, Professor Piggott, of the U.S.A., has been using for this purpose a gun which fires a tube into the soft sediments on the ocean bed and brings up cores up to 15 feet long. Now the rate of deposition of sediments on the ocean beds far from land is quite slow, and 15 feet of deposits may therefore represent a very long period of time. Indeed, fossils brought up in the tubes show that deposits laid down during the Great Ice Age nearly a million years ago have been penetrated by the Piggott gun, but it is now reported that another scientist has obtained cores up to 50 feet long.

Many other physical methods have been successfully used in geological research, but I would like to tell you now something of what's being done in the sister science of geochemistry. Until recently chemical analyses of rocks and minerals were made only to determine the major constituents (which for the average rock, number about 12 to 15 and include silicon, aluminum, iron calcium and so on). Now, however, by means of spectrographic analysis, it's possible to estimate quantitatively constituents that are present only in minute amounts—and by that I mean not amounts of

Turn to page 75

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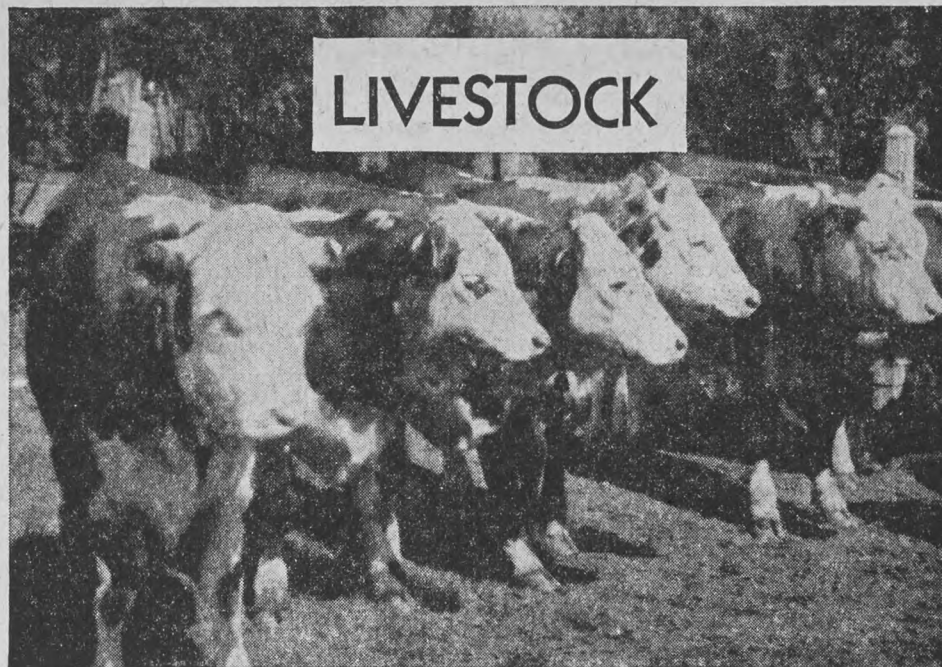
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These range-bred steers gained 1.8 lbs. daily throughout the winter on hay (50 per cent alfalfa) and two lbs. of grain, at the University of Alberta.

The Place of Beef Cattle

FOR three years now, the Animal Husbandry Department of the University of Alberta has conducted an experiment designed to examine the possibility of producing good quality, well finished, commercial cattle by using a maximum of roughage in the form of hay, grass, and cover crops and the minimum of grain. Summarizing the conclusions reached following this three-year experimental period, Professor J. P. Sackville, Head of the Department, told the stockmen gathered at Feeders' Day in June:

"It became apparent that the procedure of carrying fall-weaned calves during the first winter, largely on good quality roughage, followed by as long a season on suitable pasture as possible, including cover crops, offered the greatest possibility as far as the central and more northerly areas of Alberta were concerned."

Last fall the third year of the experiment, twelve head of range-bred calves, averaging 440 pounds in weight and typical of the better range-bred animals, were purchased on the Edmonton market. In addition, five steers and five heifers, all cross-bred and raised on the University Stock Farm, were included in the experiment which started November 15, after a preliminary feeding period of about three weeks. During this preliminary period they received roughage made up of equal parts of alfalfa hay and green oat hay, together with a very small allowance of grain. The feeding during the experimental period consisted of equal parts of alfalfa and cut green feed. The alfalfa hay was of good quality, reasonably leafy and of good color, cut when 20 to 25 per cent in bloom. The oat hay was cut in the late dough stage, fairly leafy and cured with but little weathering. The hay was full-fed after the calves had consumed what small amount of grain they were given. The grain mixture was of oats two parts and barley one part, by weight, both of No. 1 feed quality. In addition to hay and grain the calves were given monocalcium phosphate and salt in equal parts at free choice and, in addition, salt alone was available at all times. The cattle were housed in a plain shed, with small exercising yards, and they were watered twice daily at mid-morning and mid-afternoon.

The range-bred calves were on feed for 187 days and made an average total gain of 341.3 pounds or 1.82 pounds per day. They consumed 13.9 pounds of hay

each, per day, and an average of two pounds of grain, the combined cost of feed per hundred pounds of grain being \$7.30.

The calves were turned on pasture May 22, at an average weight of 813.8 pounds. They were continued on pasture throughout the summer to be turned on cover crop in the fall. This is seeded from July 20 to 28 at the rate of 2 1/4 bushels per acre and during the past three years has averaged 43 days from seeding to the pasturing stage. During the past three years also the steers in this experiment have averaged 58 days on cover crop; and the capacity of the crop has averaged one yearling per acre for a period of 60 days, during which time the steers have gained an average of 2 1/2 pounds per head, per day, giving a return for the cover crop of \$12.03 per steer.

When taken off cover crop, the cattle are not in the best condition for marketing, but a short period of from 30 to 60 days in the feed lot makes it possible to market them as grain-fed steers, at a weight of approximately 1,100 pounds. This procedure, said Professor Sackville, is believed to be most economical of grain for steer feeding, since the steers are brought to an age of approximately 20 months and a weight of about 1,100 pounds on from 20 to 25 bushels of grain, which compares with from 40 to 50 bushels of grain required to carry steers through a feed-lot for a period of five to six months. In order words, this method makes it possible to produce between six and seven hundred pounds of beef on the hoof, for about as much grain as it would require to produce a 200-pound hog. Thus the maximum utilization of hay and roughage is attained with the minimum of competition with dairy cattle and hogs for feed grains, in addition to which, the method makes it possible to use soil conservation practices by including sufficient hay and pasture in the rotation and also substantially reduces the cost of beef production on the farm.

Professor Sackville also discussed the influence of the cover crop on the grain crop yields of the following year. The effect of growing a cover crop in a summerfallow year is, of course, to reduce somewhat the grain yield of the following year. Only one year's figures were available at the University, but general opinion seemed to indicate, according to Professor Sackville, an average decrease of about four bushels per acre, in grain yields the next year.

Advanced Registry Station Report

THE most satisfactory basis for the development of bacon-type hogs so far developed in this country, aside from the rail grading of market hogs, is the system of Advanced Registry for breeding stock. A recent report from the Advanced Registry station maintained by the Dominion Government at Edmonton, would seem to indicate a need for a much greater use of this method for checking bacon hog quality than is being made at the present time. The recession in hog marketings during the

past year or so, has, of course, been reflected in the total number of litters handled at the Edmonton station, the drop being from 121 in 1944 to 97 in 1945. Of 38 herds involved in the testing at this station, two were institutional farms, 14 were private breeders, testing for the first time, and only 22 were private breeders who had tested at this station in previous years. Of the 266 sows entered for the tests, only 74 litters materialized, which means that 73 per cent of the sows entered, failed in their

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initial attempt to meet the first qualifications. Seventy-six litters completed the normal tests and were officially scored, but 29 failed to qualify, or 38.2 per cent of the number completing tests.

To qualify, a sow has to wean eight normal pigs, and five points are allotted for each pig weaned. In addition to a minimum production index of 40 (8x5) there is a minimum maturity index of 100, which means that a pig must produce a 150-pound carcass in 200 days. At Edmonton last year the average qualifying maturity index was the equivalent of 195 days. A further 100 points is allowed for carcass score and the minimum requirement to qualify is 75. Added to these three points is feed consumption, which is not a qualifying factor, but nevertheless is very important. The average feed consumption reported for 1945 was slightly higher than for the previous two years. The lowest feed consumption reported was 3.26 pounds of grain to make one pound of gain, but this particular litter failed to qualify. Between the high and the low in feed consumption for the year, there was a difference of only two days in actual maturity, but the difference was slightly over ¾ of a pound of grain per pound of gain, which means that the earliest maturing litters are not necessarily the most economical in their use of feed. N. Curtis, District Livestock Fieldman for Alberta and British Columbia, reported six litters with exactly the same maturity index of 100 points or 200 days. Four of these litters had a feed consumption of 3.41 to 3.5 pounds of feed per pound of gain, while the other two litters required 3.95 to 4.05 pounds of grain. It is of interest to note that in each of the last four years, though feed consumption per 100 pounds of grain is not the qualifying factor, the average feed consumption among the three groups of qualifying litters in each year, was invariably lower in the group scoring highest for carcass characteristics, including length, belly grade, loin and total carcass score.

Livestock Get Rickets

NO doubt a considerable number of farm animals, including some both young and older, have been noticed this spring with their feet turned in and walking without much vigor or certainty. Perhaps they have developed sore feet, stiffness or arthritis, and perhaps even bandy legs.

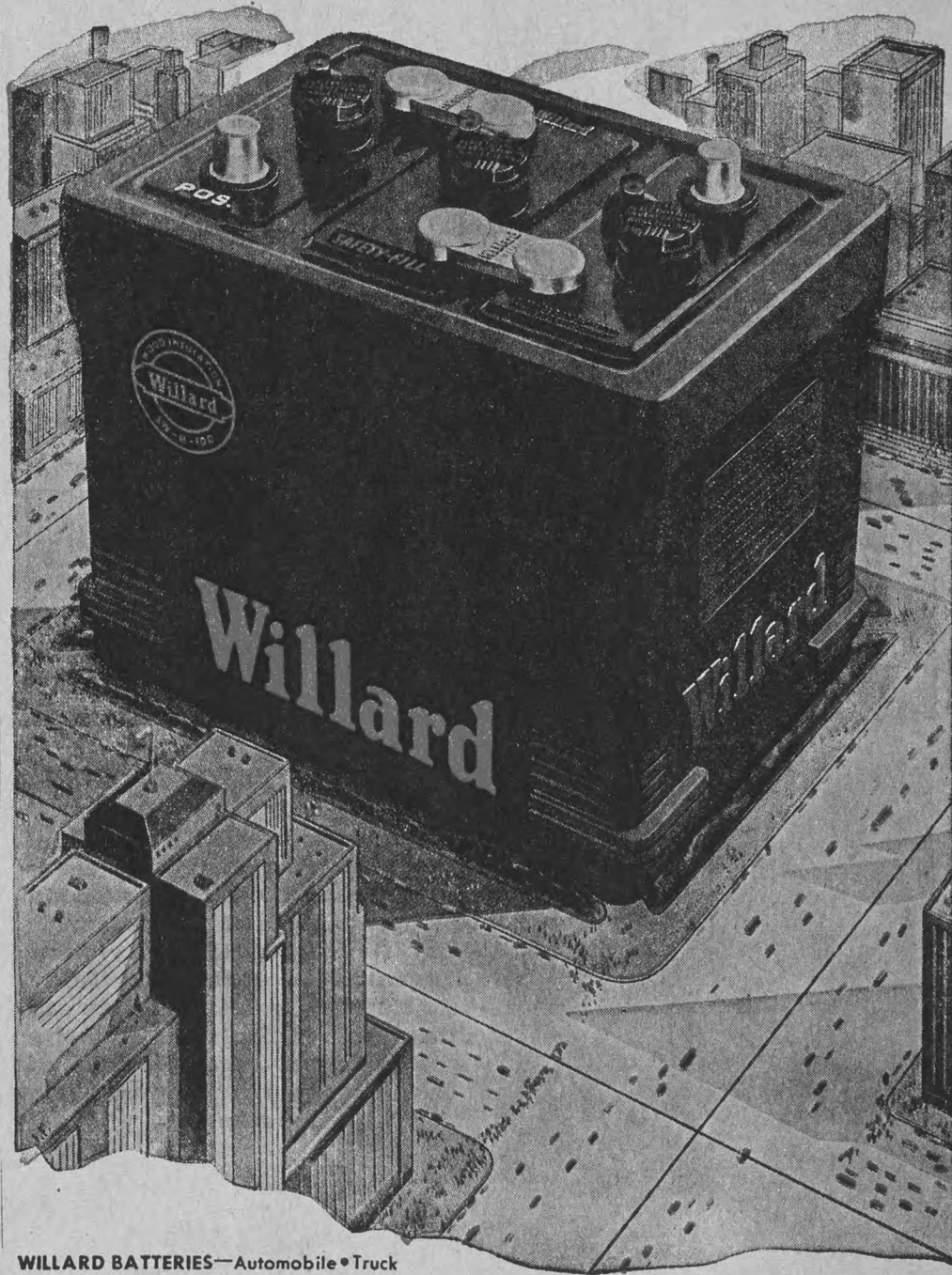
These are the symptoms of rickets, which developed, in all probability, as a result of an early winter and consequent earlier stabling of stock, and fundamentally from a deficiency in diet during winter feeding. Rickets is caused by a deficiency of calcium, phosphorus or vitamin D in the diet. Vitamin D is the sunshine vitamin which accumulates in sun-cured hay. Calcium and phosphorus are necessary for bone strength and sturdiness; and younger animals, therefore, are more likely to suffer permanent ill effects from rickets than older animals, which already have their bone structures built up during the growing period.

It is calcium which is most necessary for bone development, but Dr. Charles A. Mitchell, Dominion Animal Pathologist, points out that phosphorus is necessary as well as vitamin D in order that the body may make use of calcium. "Well cured hay should contain enough of both minerals to protect an animal, but whether it does, depends on the presence of these minerals in the soil where the hay is grown," says Dr. Mitchell, who also points out that if the soil on which the feed is grown is rich in calcium, additional quantities will not be made use of. As a result, his advice is that each case of rickets should be treated by a veterinarian familiar with local soil and feeding conditions.

Sometimes rickets may result from the fact that rainy weather prevailed during the previous haying season, and interfered with proper curing of hay. The point is timely since every piece of nutritional research points to the importance of cutting hay at the proper time and curing it in the best way possible under the weather conditions prevailing, in order to preserve the green, sun-cured quality so conducive to the health of livestock.

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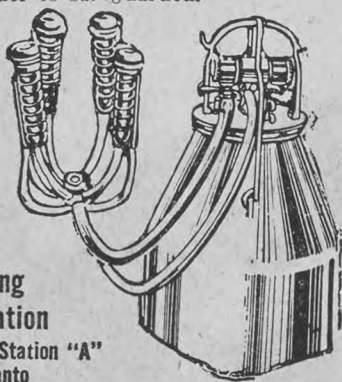
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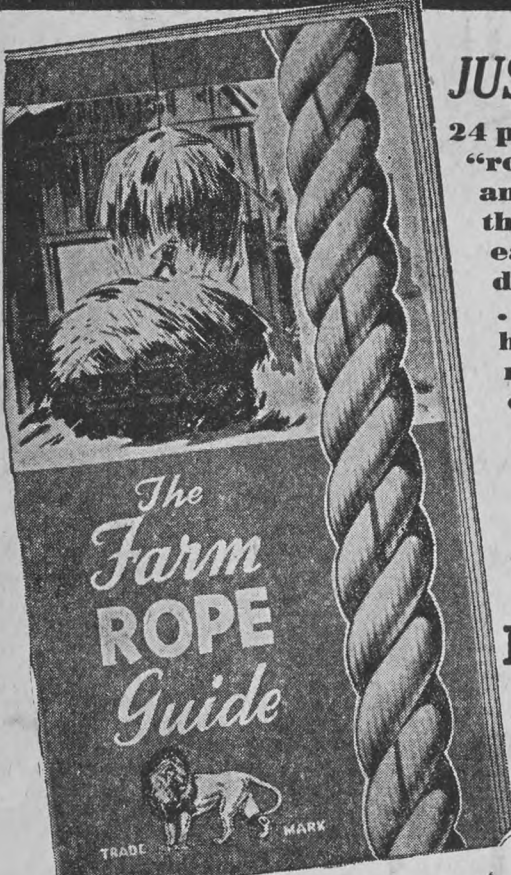
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Calfhood Vaccination for Bang's Disease

CONTAGIOUS abortion, or Bang's disease, are names given to the contagious cattle disease most commonly found in pregnant female cattle, sometimes leading to undulant fever in human beings.

Abortions, when they occur, take place as a rule between the fourth and seventh month of pregnancy, and are often followed by retained afterbirth and sterility, as well as by reduced production. Consequently, Bang's disease is responsible for severe losses in the cattle industry. Young cattle and bulls are frequently found to be infected.

Bang's disease is caused by an organism known as *Brucella abortus*, which usually gains entrance to the body through the mouth, by means of food or water contaminated by discharges from infected cows. The infection becomes localized in the womb, where it sets up inflammation involving the coverings of the calf, and usually, though not always, results in abortion. When it does not, a calf is carried for the full time and birth may be accompanied by retained afterbirth and sterility. After calving, infections become established in the udder, and milk from infected animals may infect either calves or human beings. After calving time, dead calves, afterbirth and all discharges are heavily contaminated and generally prove to be the chief source of infection to other susceptible animals.

Infectious cows rarely abort more than once, but remain as chronic carriers of the disease, and a constant source of infection to other animals. Thus, the purchase of a carrier cow may be responsible for introducing contagious abortion into clean herds.

The disease can be definitely diagnosed by means of a blood test by a veterinarian. An accurate diagnosis can be made in no other way. Various forms of treatment have been examined, but none has proved of real value, and mature cattle, once infected, are usually considered incurable. Calves may overcome the disease and after a few months prove negative to a blood test. Thus, where Bang's disease is suspected in any herd, all cows about to calf should be isolated for at least ten days at the time of and immediately after calving. All afterbirth, litter and discharges should be kept out of the way of other cattle, and stalls or stables carefully

cleaned and disinfected with lime wash containing a disinfectant. New cattle purchased should be subjected to a blood test before being added to the herd.

As a result of these conditions, the blood testing of herds and the removal for slaughter of reacting animals is the most effective method of controlling Bang's disease. If on test, a suspicious reaction is secured, isolation and retesting in 30 days is called for, and after reactors have been removed, a retest every 60 days until at least two clean tests have been secured, is advisable.

Most departments of agriculture now recommend calfhood vaccination for badly infected herds, where the blood testing and slaughter of mature infected animals is not found practicable. By means of calfhood vaccination at about six months of age, or between the ages of four and eight months, it is possible to gradually build up a healthy herd, since vaccinated calves generally develop a resistance against contagious abortion and remain healthy even when in direct contact with infected animals.

The provinces of Manitoba and Saskatchewan have policies of assisting in the control of Bang's disease by calfhood vaccination, and in Ontario, the Ontario Veterinary College has, since 1938, supplied vaccine to 78,646 calves in 5,658 Ontario herds.

The vaccine used for calfhood vaccination is a special strain of *Brucella abortus* studied and found stable by Dr. Cotton of the Bureau of Animal Industry, U.S. Department of Agriculture, Washington. It is called Strain 19, and large scale trials as to its efficiency were commenced as early as 1936. Calves are not ordinarily blood tested prior to vaccination, but it is a common practice to blood test calves 30 to 60 days afterward, though this is not necessary according to Dr. A. L. McNabb, principal, Ontario Veterinary College, Guelph.

The length of time during which an animal remains immune to Bang's disease following vaccination has not been definitely established, and veterinary scientists are studying this question at present. Notwithstanding the fact that the duration of immunity and some other factors with respect to calfhood vaccination may yet remain to some extent unknown, calfhood vaccination is economically advisable and of great importance from the standpoint of public health.

Getting Along With Cows

COMPARATIVELY few men have the knack or ability of enlivening a dry subject. One of these is Dr. W. E. Peterson of the University of Minnesota, whose outstanding work in the study of milk secretion, and of the many factors involved in milk production, has made him known wherever such work is needed and appreciated in North America.

As a speaker, Dr. Peterson has many times visited western Canada, and on each occasion brings to his subject, whatever it may be, a freshness, vivacity and interest which makes him doubly welcome another time. During the past winter, Dr. Peterson visited Manitoba, and addressed the Manitoba Dairy Convention on the subject "Psychology and Behaviorism of Dairy Cows."

He was careful to point out that the dairyman can never hope to completely understand the dairy cow, if only for the reason that she is feminine in nature. Nevertheless, dairy farmers have always known that the milking cows or dairy cows of any type must be treated kindly and handled by understanding persons.

The cow is inevitably faced with two problems of adjustment. In the first place, she must be adjusted within her own social order; and in the second place, she must be adjusted to the human element by which she is surrounded and governed, to a large extent, by domesticity. The dairy cow is brought under more intimate control by man than any other farm animal, and to reconcile this with her nervous temperament presents a problem to the thoughtful dairyman.

Dr. Peterson reminded the dairymen

that there is a boss cow in every herd. She is the one who is first at the gate and down the lane. All the other cows in the herd yield this leadership to her because she has attained it by physical combat; and, says Dr. Peterson, she retains it as long as she lives. She is generally easy to handle, because she has no worries. The other end of the bovine scale is the last cow in the herd. She also is easily satisfied, because she doesn't care, and is probably without ambition. She is the one who is generally last through the gate. It may even be necessary to make an extra trip in order to bring her in on time. In between the boss cow and the last one is where the trouble occurs, according to Dr. Peterson. Here are the cows with unsatisfied ambitions. They want to get ahead and make their way in the world; and they are restless, because they lack either the leadership of the boss cow or the indolence and indifference of the tail-enders.

It appears that there is a vast difference in the behavior of cows, depending on who takes care of them. If the herdsman doesn't possess their confidence, they are very likely to refuse to work very hard. Basically, said Dr. Peterson, cows are quick to associate either pleasantness or unpleasantness with people, places, or objects. For example, if you bring a cow into a veterinary room for the first time, it seems to cause no trouble. But any unpleasantness she experiences during this first visit will be remembered when you try to get her into the same room a second time. Years ago, said Dr. Peterson, he constructed a teat cup electrically arranged to stimulate milk flow and providing for a gradual increase in the intensity



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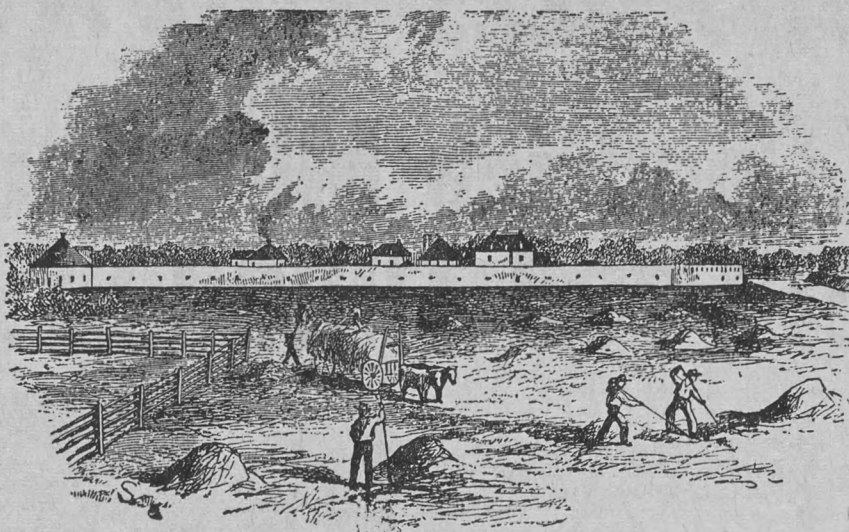
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Pictures were used representative of different cross-sections of the nation—statesmen, business men, professional men, craftsmen, fishermen, artisans, laborers, housewives, school children. Underneath each picture appeared the cryptic reminder: "THEY ALL LIVE BY THE LAND."

The contribution of each of the different groups was not lost sight of but was carefully explained; that of the Farmer, however, was unique, in that all of the other groups lived by it and could not have carried on their contribution without it—"THEY ALL LIVED BY THE LAND."

The world importance of Food and Agriculture has, during recent years, frequently received special emphasis. At the Hot Springs Conference in 1943, representatives of 44 different nations attended. At the Washington F.A.O. Conference, to which 10 nations were invited, 23 turned up. At the historic International Conference of Agricultural Producers, held in London, England, in May of this year, delegates from 31 countries were present and brought into being the International Federation of Agricultural Producers (I.F.A.P.).

The facts revealed at these different conferences still further serve to highlight the vital importance of the Farmer's work of food production. Earlier this year Sir John Orr, Director-General of F.A.O., stated that beyond the immediate crisis of this summer lay a vista of five years of possible food scarcity; that a gap of ten million tons of cereals lay between this year's prospective world harvest and world need—ten million tons being the amount of cereals required by five hundred million people in one year. That position has since improved somewhat due to unexpectedly bountiful harvest prospects, but drastic curtailment of both domestic and industrial uses of cereal grains is still urgently necessary if famine conditions are to be overcome. At the forthcoming conference of F.A.O. to be held in Copenhagen, in September, it is expected that a plan will be outlined aimed at the creation of a permanent World Food Administration—the first in world history.

Starvation and Famine—the dreadful aftermath of war—have thus served to emphasize the basic truth that the whole world literally "LIVES BY THE LAND" and that, without the Farmer's knowledge, skill and labor, modern civilization could not long function.

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of electrical force. One cow was used in these experiments and a year and a half later, a young veterinarian who had not been concerned with the previous experiment, had occasion to examine her and found her quiet. But when Dr. Peterson, who had conducted the experiment, spoke so that she could hear his voice, she became very excited, even though he was out of sight.

Individual cows may become neurotic in various degrees, or even insane. For example, there was the case of the purebred \$600 cow which had been purchased by a breeder 30 days before Dr. Peterson had occasion to examine her, and which had, up to the time of her purchase, presented no problem. Now, she simply would not be milked, and "kicked equally well in any direction." Dr. Peterson was asked to see what he could do. Brushing, which was generally effective in quieting cows, was tried without avail. Restraints of various kinds, milk hormones and other methods were ineffective. A neighbor said that he had never failed, and took the cow home to see what he could do. A week later he delivered her to Dr. Peterson, but meanwhile she had injured a teat and developed mastitis. He used all the skill he had, but found he had to resort to restraint. She was tied up, and after ten days any of the milkers, if careful, could milk her. The veterinarian got hold of her. She went vicious and they dried her up, whereas previously she had been on test, giving 60 pounds daily.

Dr. Peterson said he traced the history of this cow back and found that she had started her viciousness after a 30-day isolation test, during which time she broke through a fence in order to get away and, beginning the same evening, refused to be milked.

Provided dairy cows are well kept, Dr. Peterson believes there is a definite co-relation between the behaviour of animals in the herd and their production. Too much petting, for example, is not good for production because it de-

velops bad habits, illustrated in the case of a Jersey cow which milked well for 11 months during her first lactation period. She had been petted a great deal, and when she was moved to another barn, she didn't like it and refused to milk as usual, so that by the end of three months her production was down lower than at the end of eleven months of her previous lactation. The same lowered production occurred during her third and fourth lactations. During her fifth lactation, the best cowman at the university started to milk her personally and observe. She milked well for him. Her regular herdsman then alternated in taking care of her, and her production went down. They changed backward and forward, and each time it was the same. She milked well for the herdsman she liked and poorly for the one she didn't like, with the result that the one man was able to get 61 per cent more milk from her in one lactation, than had been possible under conditions she did not like.

Training a heifer to milk, says Dr. Peterson, involves an understanding of the fact that the cow will always let down milk for her calf, but she will only let it down when she wants to. The dairymen, then, must learn to imitate the calf, which provides a warm moist mouth and plenty of action. Therefore, a stimulation of the milk-making mechanism of the cow by massaging her udder with warm water of from 130 to 140 degrees temperature, applied with a cloth, will excite and develop her milk-making and maternal instinct. Milking, says Dr. Peterson, should be completed in seven minutes, and the milker should milk until the milk ceases to flow freely—then quit. The cows soon get used to it.

On the other hand, said Dr. Peterson, if the cows get trained to a massage with warm water, it is likely that warm water will always have to be used, because they may not let their milk down without water or if the water is too cold. Apparently cows, like people, have their peculiarities.

Enteritis In Pigs

THE word "enteritis" is commonly used to cover a considerable number of diseases resulting from a disturbance in the intestinal tract in swine.

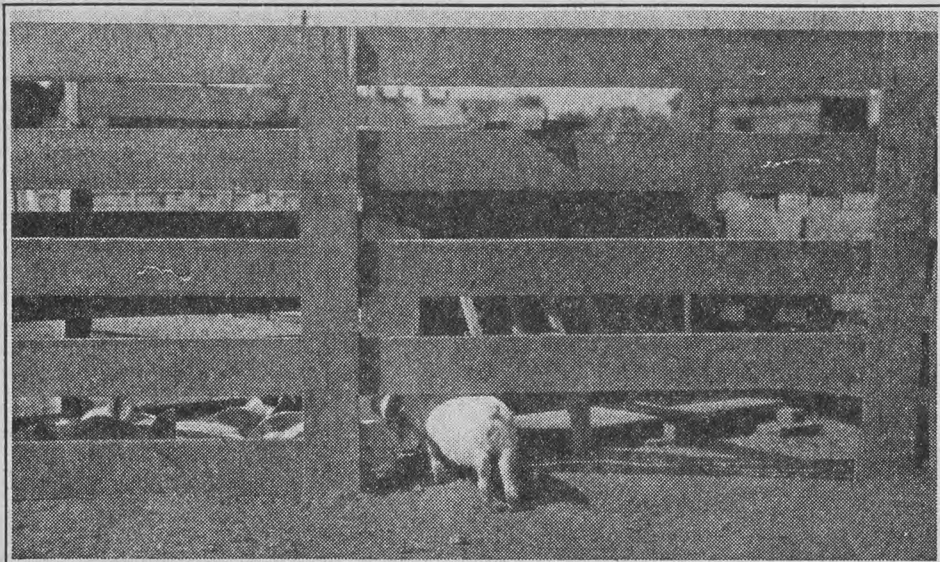
During the last few years, enteritis has given considerable trouble in a large number of swine herds in western Canada. There is no specific organism which is known to cause it, and there are no vaccines, bacterins or serums which will cure the condition. Control lies in proper care and management.

Numerous organisms have been found in cases of enteritis, but it is believed that these make their appearance after some other cause has resulted in damage to the intestinal tract. Some of the factors leading to the development of enteritis include: 1, feeding too much fibre to little pigs just before and after weaning; 2, feeding too high a concentration of minerals in an improper mixture of mineral and protein supplements; 3, insufficient vitamin A, which is provided by alfalfa meal, alfalfa hay, or a quart of fortified fish oil; 4, lack of proper sanitary conditions, permitting the

development of an accumulation of organisms normally present in the digestive system but which, when too numerous, may cause the death of the animal; 5, conditions such as drafts, undue exposure, or other conditions which lower the resistance of the pig.

Enteritis, though affecting swine of all ages, is more severe in younger animals. It is usually accompanied by diarrhoea, sometimes by vomiting.

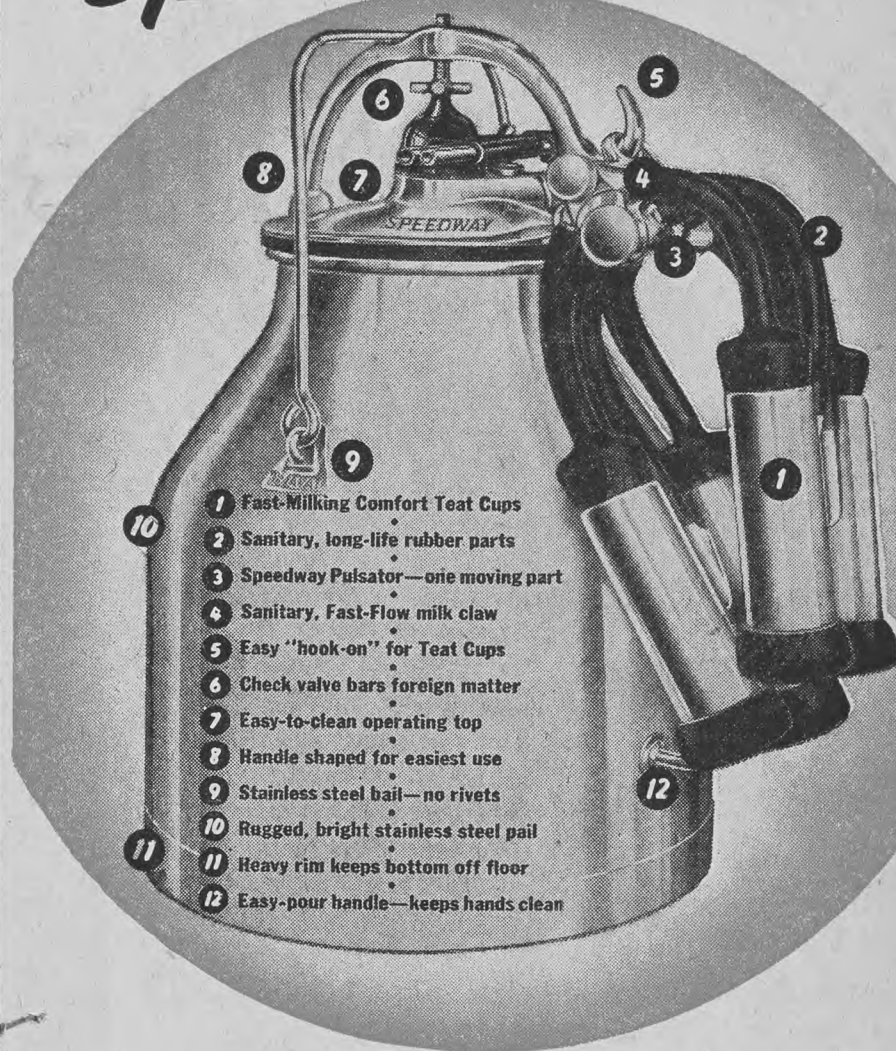
Once the herd is affected, the first thing is to remove the sick pigs and thoroughly clean and disinfect the quarters. All feed and water should be removed for 12 hours, after which fresh water should be given, with a tablespoonful of baking soda added for each pig. Six hours later, according to the Alberta Laboratory of Animal Pathology, a small amount of chop and milk can be given, with one cupful of raw linseed oil added for each three pigs. After three or four days of feeding in this way, a gradual return can be made to the usual ration, making sure that some fortified fish oil, alfalfa hay or alfalfa meal is added.



[Guide photo.]

Creep feeding of young growing pigs enables them to make up their own rations from the self-feeder.

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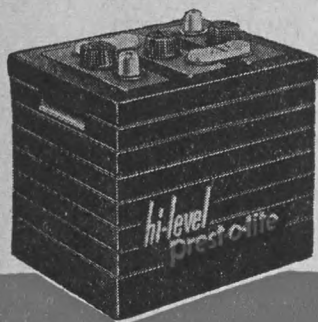
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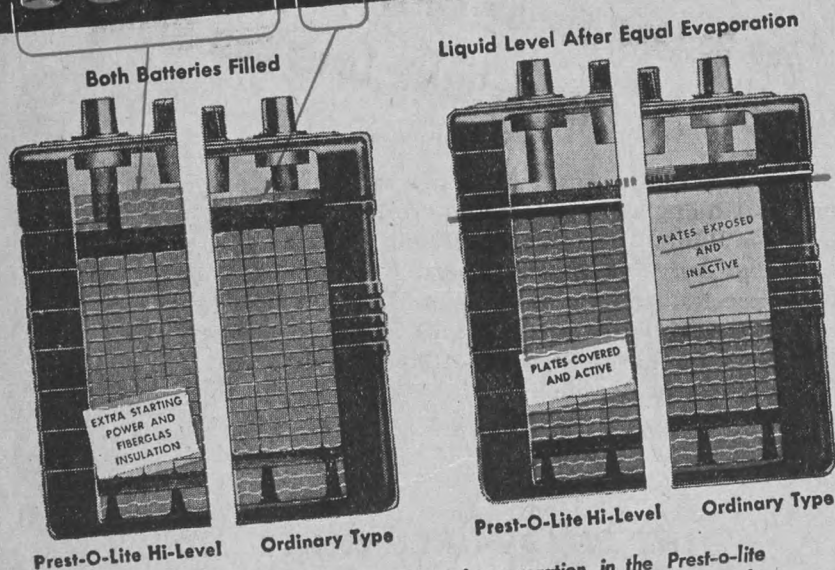


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FIELD



[Guide photo.]

This is grass, not crop land. Even the poorest land has some economic value for food production. This southern Alberta range land will support one head of cattle for each 40 to 60 acres.

Soil Surveys Are Valuable

AMONG the most valuable work that has been undertaken on behalf of Canadian agriculture, is the surveying of soil so as to accurately and properly distinguish between various soil types and to map out the soils of an area in such a way as to show the variation in soil types found within a specific district.

We know that in western Canada we have, broadly speaking, four or five soil zones, which are broad distinctions between general soil types. Thus we have the brown soils of the open prairie or wheatland, the dark brown zone running in the broad belt around the brown soil of the Palliser triangle, and along the upper boundaries of the dark brown soil zone is the belt of the black soil, which dominates most of the Province of Manitoba, and runs in a broad belt northwesterly to a point about 60 miles across and about the same distance west of Edmonton, from which it runs southward in a band of variable width to the international boundary. North of this black soil zone again, in the provinces of Manitoba, Saskatchewan and part of Alberta and west of it in a broad band in north-central Alberta, running to a very narrow strip in the extreme south, is a grey-wooded soil, in which most of the new settlement in recent years has taken place.

Between each of these large soil zones, there is generally a soil indicating a gradual change from one soil zone to another. These are called transition soils, and within each zone there are soils of many different types. It is important to study our soils in detail, because the whole of agriculture and much of the welfare of urban as well as rural Canada depends upon the soil and the suitability of farm practices to the type of soil.

For the past 20 years or so, soil surveys have been under way, and, including all nine provinces of Canada, nearly 195 million acres of land have been covered by soil surveys. Of this amount, nearly 54 million acres were surveyed by individual provinces. In recent years the Dominion government and provincial governments have co-operated in bearing the expense of soil surveys. Since that time, approximately three-quarters of all the soil survey work has been done.

At first, the soil survey is of a preliminary character. Later, surveys of a more detailed nature are made, in which the nature of the soil of an area is studied very carefully; and its structure and characteristics in relation to moisture, air and plant food considered, as well as climate and its relation to the soil, native vegetation and its effects, both agricultural and non-agricultural, and the relation of soil to such matters as transportation and marketing facilities. Also, soils of the area, in addition to being classified scientifically and in detail, are studied closely in their relation to agricultural practice and farm management and as to the soil problems that arise in such areas, bearing on either fertility or erosion.

Excellent work in the surveying of soils has been made in all three prairie provinces of Canada, and our provincial universities have in each case strong soil departments, owing to the fact that agriculture is so prominent a part of the economy of the provinces. The soil and its intensive study is the basis of successful farming, and the soil scientist has much to contribute of basic information on which successful farming can be built.

Health and Profit From Insulation

INSULATION of farm buildings contributes to the health and well-being of farm animals, as well as humans. Not much attention is paid to the insulation of barns and other outbuildings, beyond banking some of them with straw or manure so as to keep the air from circulating under the floor.

The purpose of insulation is to keep the cold in, or to keep it out. In other words, the insulation material is a barrier between the inside and the outside of the building. We want to keep our houses warm in winter and cool in summer. The same is true of a barn where livestock are housed. In the case of an ice house, we want it cold so that the ice will not melt. In this case, we use sawdust to prevent melting.

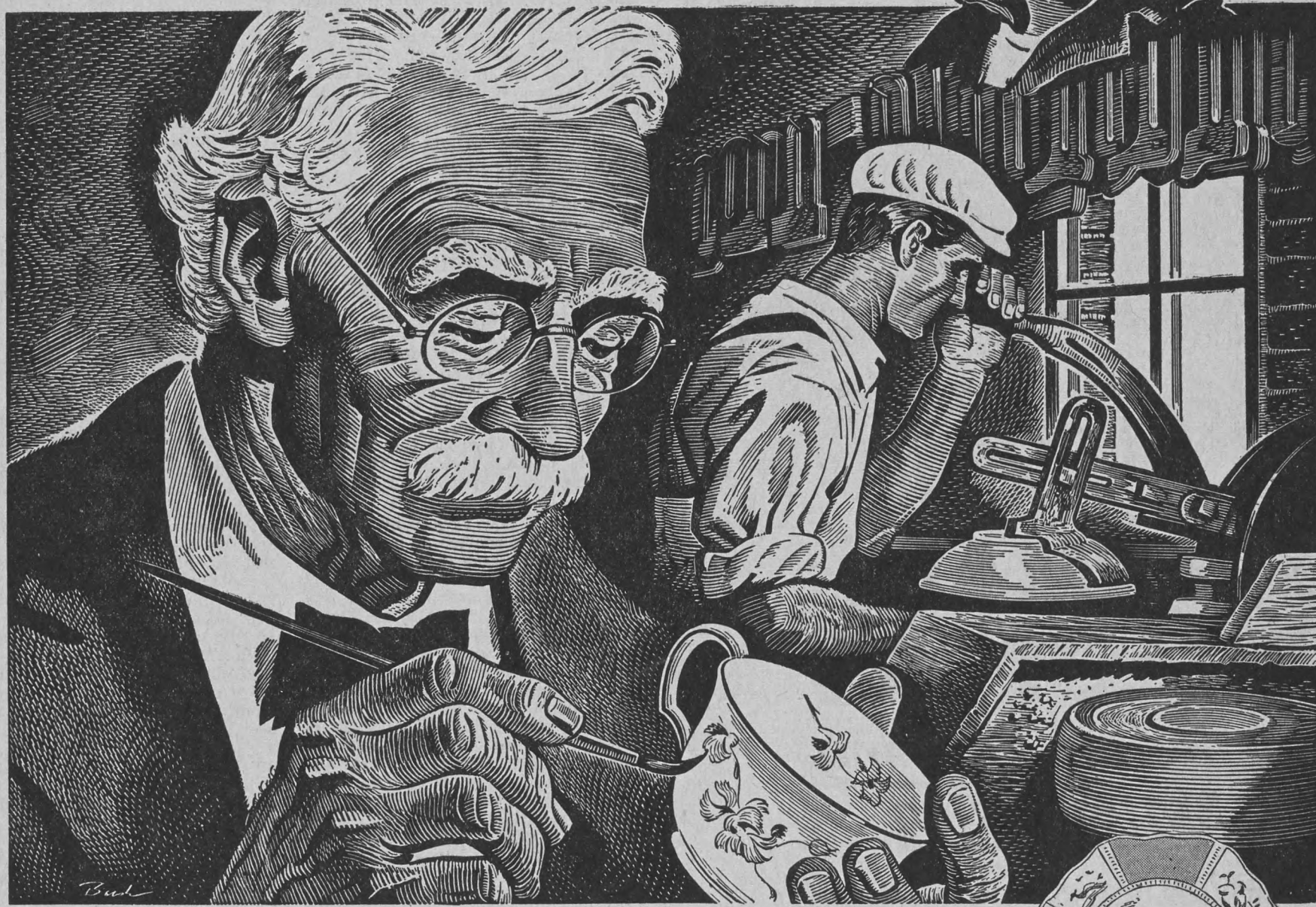
G. B. Harrison, of the Dominion Experimental Station, Swift Current, suggests that it is desirable to insulate stables and barns so as to conserve the animal heat which is depended on to keep the buildings comfortable. Concrete floors are warmer, he says, if built over a cinder fill, than if poured on gravel, stone, or the bare earth. Assuming that doors and windows are made weatherproof, insulation will add to the health and comfort of the animals and contribute toward economical production. Insulation also makes possible a more satisfactory and better controlled

ventilating system, which is impossible if the building is drafty. There is quite a range of material which can be used for insulation, among which are a number of commercial insulating materials, as well as planer shavings and sunflower hulls. These materials can be placed between the joists of the ceiling, or, if the loft is filled with hay or straw, fairly satisfactory insulation will result.

Mr. Harrison points out that trouble from condensation may be experienced if moisture finds its way into the insulation. If this happens, the sills and studs may start decaying. This moisture results from water vapor passing from the warmer stable or building into the outer layers of the insulation. To prevent this, two coats of an oil paint may be fairly satisfactory, or better results will be secured if a layer of vapor-proof paper is used. This is specially prepared paper which can be obtained from most lumber dealers.

While old buildings may be insulated and made weatherproof by filling with shavings or mineral wool, if an engine-driven blower is available, it will require only a small hole between the studs to fill in the insulating material; otherwise, it will be necessary to remove a board near the ceiling or under the eaves. In case of stone, brick, concrete, or frame walls, they may also be in-

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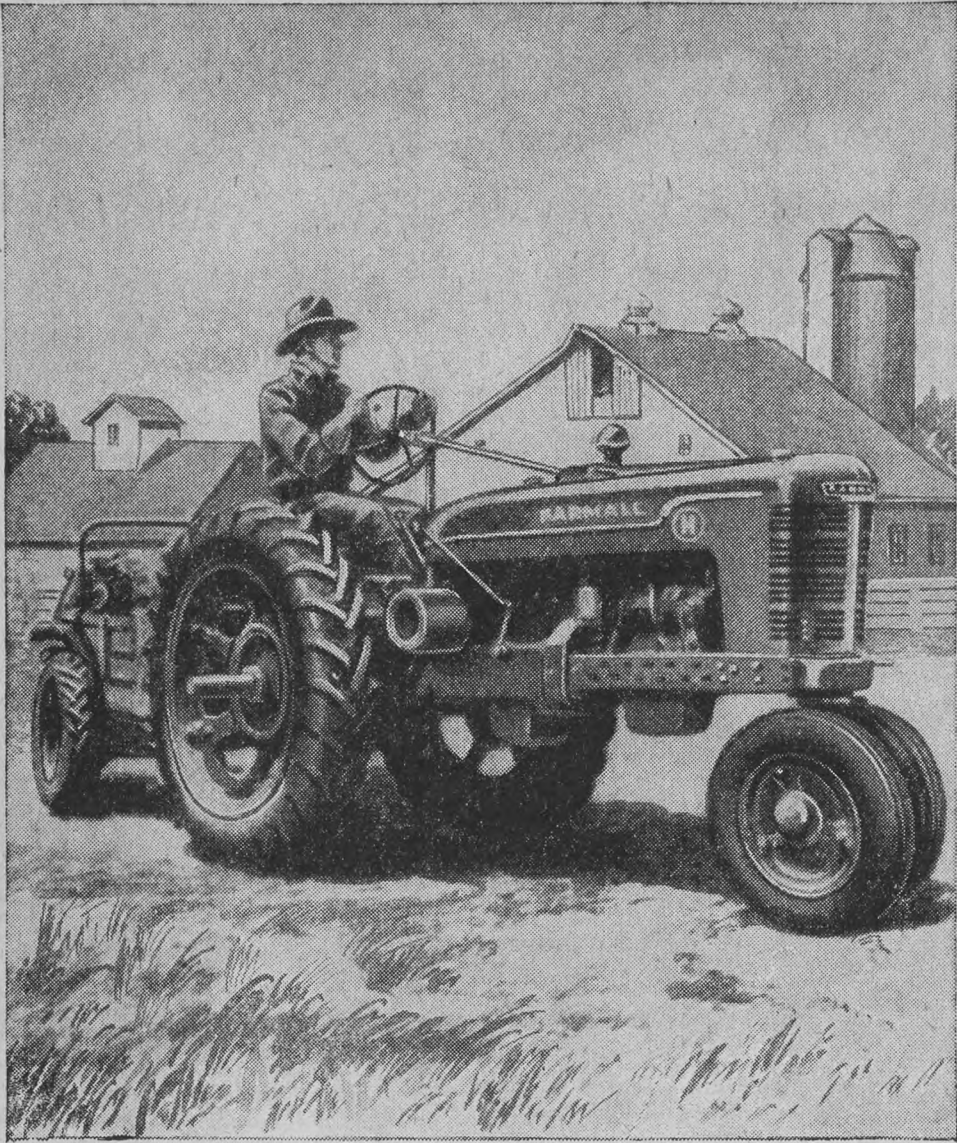
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gested that these boards may be plastered with ordinary plaster, or with a Portland cement plaster.

Story Of A New Variety

REDMAN is a new hard red spring wheat, which, within the next year or two, will probably come into very widespread use in western Canada. It was bred in the Dominion Laboratory of Cereal Breeding (Rust Lab.) at Winnipeg, and the story of its development was presented by Drs. R. F. Peterson and C. H. Goulden before the recent meeting of the Western Canadian Society of Economy.

Redman is the most rust-resistant variety now available to western Canadian farmers. It was secured from a cross made in 1934 between Regent and Canus in an effort to develop a wheat of the same type as Regent with improved drought resistance, heavier yields and wider adaptability to the various conditions found in the wheat areas in the prairie provinces.

Even when the plant breeder has wisely selected two varieties for crossing, which, when combined, possess all of the characteristics desired in a new variety, the development of the successive generations from that cross into a thoroughly tested pure variety which can be multiplied and distributed for general use, is by no means a simple matter. In the case of Redman, for example, which began with a cross made in 1934, it was not until early in 1946 that Redman was recommended for license as a new variety, by the three associate committees of the National Research Council, namely those on Grain Research, Field Crop Diseases, and Plant Breeding.

Producing a new variety by crossing is not merely a matter of making the cross or hybrid and then multiplying it until there is a sufficient quantity for general use. The plant breeder is confronted with a law of inheritance commonly called Mendel's law, because it was discovered many years ago by a monk called Gregor Mendel. This law established the fact that in the inheritance of plant characteristics there are characters which are dominant or strong and those which are recessive or weak. Thus as between tallness and shortness, tallness may be dominant and shortness recessive or weak. Breeders of livestock see this, for example, when they cross a pure Aberdeen-Angus animal which is black, hornless and with a black face, with a purebred Hereford which has horns and a white face and is red in color. The first generation of cattle from this cross have white faces but no horns and the body color is black. If animals from this first generation or cross-bred group are bred to each other, at least eight different combinations of these three characteristics are secured, and eventually, if breeding were continued for a sufficient number of generations, it might be possible to evolve a completely new breed.

Plant characters follow the same law of strong and weak characters. But the plant breeder, while he must recognize this law of dominance and recessiveness, is really interested in economic characteristics such as yield, milling and baking qualities, disease

resistance, strength of straw and other cultural and market factors. Consequently the plant breeders responsible for the production of Redman, grew the first or cross-bred generation in the field at Winnipeg in 1935 and they also took the precaution to send some of this hybrid seed to Australia to be grown there. The next or second generation was grown in the hybrid nursery at Winnipeg under an artificially induced rust epidemic. Here, the most resistant plants were selected. In the following winter (1936-37) two more generations were grown in the greenhouse; and in 1937 the fifth generation lines which had been selected were grown in the hybrid nursery and again selected for disease resistance. Each line, or group of plants resulting from a single plant originally selected, was harvested fully. In 1938, the sixth generation was grown in preliminary increase plots from the lines harvested in bulk the previous year. In 1938 also, a promising early line was selected and given what was called an "accession" number. Single plants were selected from this line and the balance again harvested in bulk. In 1939 and again in 1940, the line R.L. 1834, was grown in the general rod-row tests at Winnipeg, and grown in co-operative tests throughout the Prairie Provinces in 1941. Also in 1939 another line was grown from one of the single plant selections from R.L. 1834; and the following year, 1940, this new selection R.L. 1834.1, (later named Redman), was grown in preliminary increase plots.

From 1941 to 1945 Redman, as it was later known, was grown in the general rod-row tests at Winnipeg, in order to test its cultural and general quality value. From 1943 to 1945 it was also grown in co-operative tests in the three provinces, while in the winter of 1944-45 the available seed was grown in California during the winter months in order that it might be increased more rapidly. In 1945 the seed secured from California was grown in Manitoba and yielded approximately 900 bushels.

Early this year (1946) final reports on the quality of Redman as compared with Marquis and Thatcher wheat were secured and its milling and baking qualities having been proved equal to these varieties. Redman was recommended for license by the three associate committees on research previously referred to. The name Redman was also approved and seed increase, preliminary to general distribution, was placed under the control of the Cereal Division of the Dominion Department of Agriculture.

Thus, over a period of 12 years, a new variety of wheat more resistant to rust than any variety previously evolved, was born. It is of much the same type as Regent in general appearance but is somewhat heavier, stronger and more rugged as a plant than Regent. The leaves are somewhat lighter in color, but have some buff color in the spike before maturity. Also the spike of Redman is a deep golden yellow when mature, as compared with the whitish yellow spike of Regent.

The Soil Contains Life

EXPERIENCED farmers often speak of soil as having plenty of life in it, by which they mean that the seed will germinate readily, and the young seedlings grow quickly and healthily to mature plants and profitable crops. Perhaps not many of those who refer to a soil in good tilth that is warm and friable, as having "life" in it, realize how literally this is true.

There is a great deal of actual life in the soil, made up principally of a great many different forms of life so small that they can be seen only with a microscope. Bacteria are the chief form of life of this type found in the soil, and the numbers of bacteria are almost unbelievable. A British scientist, Dr. H. B. Thornton of the famous Rothamstead Experiment Station, found that he was able to count the bacteria in a given amount of soil by

weighing a small quantity, making a thin mud paste of it, adding a certain red dye which colors the bacteria, but does not affect other substances in the soil, and then counting the colored bacteria with the aid of a powerful microscope. He found that there may be as many as eight billion (8,000,000,000) bacteria in a single teaspoonful of soil. Some types of bacteria, such as those which we call the legume bacteria, are very beneficial because they live on the roots of such crops as alfalfa, red clover and other plants of the pea family, and are able to help these plants take nitrogen from the air, some of which is retained in the soil for the following crops.

Other beneficial bacteria in the soil are able to decompose woody parts of vegetable matter, and are thus useful in decomposing stubble and manure.

Rotary Implements Pulverize Soil

ANY implement or piece of machinery that will do in one operation what has customarily required two or more operations, always has a very strong appeal to farmers. This is quite understandable and certainly is not to be criticized. Indeed, many of the outstanding improvements in farm implements have originated with individual farmers, as for example, in the case of the blade weeder and one-way disc; the former having been developed in southern Alberta, especially in the Monarch district, while the latter originated nearly 20 years ago in Kansas, where a farmer was having difficulty in satisfactorily handling heavy stubble and trash.

In recent months, considerable has been heard about rotary tillers, or rotary plows, which in one operation turn over, chew up and completely pulverize the soil so as to leave it in the form of a fine seed bed. B. T. Stephanson, Agricultural Engineer at the University of Alberta, points out that the principle of this machine is not new, having been invented as early as 1854 in England.

Reports of seven years' work in Ohio are reported by Mr. Stephanson as showing good results in dry seasons, but poor results in wet seasons, where soil worked too much loses its silt and friability and virtually solidifies. Cambridge University, England, reports small rotary cultivators frequently used by horticulturists and market gardeners, but suggests that these are not suitable for ordinary farm cultivation.

In western Canada we have learned by bitter experience that trash cover and a lumpy surface are necessary for the control of drifting. Excessive pulverization is just what we do not want, and for this reason farmers might well be cautioned, therefore, against too ready acceptance of the labor-saving and speedier cultivation of the rotary type implement.

Experience during the last ten years has really indicated that even the one-way disc, if used at excessive speed or for too-deep tillage, or too frequently, may be harmful in over-pulverizing soil and encouraging soil drifting on open prairie soil.

Ladino Clover

AS far as The Country Guide is aware, no commercial seedings of Ladino clover have been made in western Canada, though since 1900, when it was introduced into the United States from Lombardy in northern Italy, it has been widely grown, especially since 1912, in the western states of California, Oregon, Washington and Idaho, where most of the seed is produced and, since 1928, in the New England states. It was first grown in Wisconsin in 1916, but seemed to offer little promise until 1942, when extensive experiments were undertaken under widely varying soil conditions.

In the Prairie Provinces, where chief reliance must be placed on brome and alfalfa mixtures, or on crested wheat grass, and where so much of our native pasture is comparatively unproductive, there is need for greater diversity of choice in pasture crops. So far, it would appear, no conclusive tests of Ladino clover have been publicized in western Canada, and we are not aware that there has been any demand for seed of this clover from commercial seed houses.

Ladino is a giant form of common white clover. It is a rapidly growing perennial which spreads by producing fleshy, creeping stems. It is a shallow rooted plant, with short tap roots developing beneath the crown, and with numerous fibrous roots produced at the nodes or joints of the creeping stems. The seed cannot be distinguished from that of common white clover, and when very young, the plants of the two species are hard to identify. Ladino is high in protein, minerals and vitamins, and low in fibre. As a perennial, it is of medium long life, and under favorable

conditions it is very effective in fighting weeds and undesirable grasses. It is valuable as a ground cover in reducing loss of water due to run-off and soil erosion losses. It tolerates poorly drained and wet soils better than alfalfa, and in areas where alfalfa and red clover suffer from heaving in the spring, Ladino would be a more satisfactory crop. It starts to grow early in the spring and under favorable moisture conditions recovers rapidly after grazing or mowing, while as a feed it is highly palatable to all kinds of livestock.

It is not hardy enough to withstand severe winter conditions, especially on soils of low fertility, or if heavily grazed in September or later in the fall. Close grazing weakens the plants and may even result in summer killing from heat or winter killing from too much cold.

Seeding seems to be most satisfactory as early in the spring as a good seed bed can be prepared, since early seeding enables the plant to become well established before the dry mid-summer period.

In Wisconsin, seeding of Ladino alone is not advised. In order to reduce the danger from bloat and to aid in mowing and curing hay, as well as to balance the tendency of Ladino to excessive succulence and a laxative effect, mixtures with brome grass, alfalfa and timothy are recommended. One pound of Ladino clover added to eight to ten pounds of alfalfa and six to eight pounds of brome grass are suggested in Wisconsin for well drained, fertile soils with ample moisture.



[Guide photo.]

Forest fires along the route of the Alaska Highway in northern Alberta and B.C.



2.

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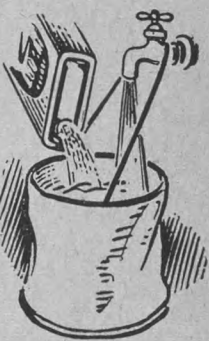
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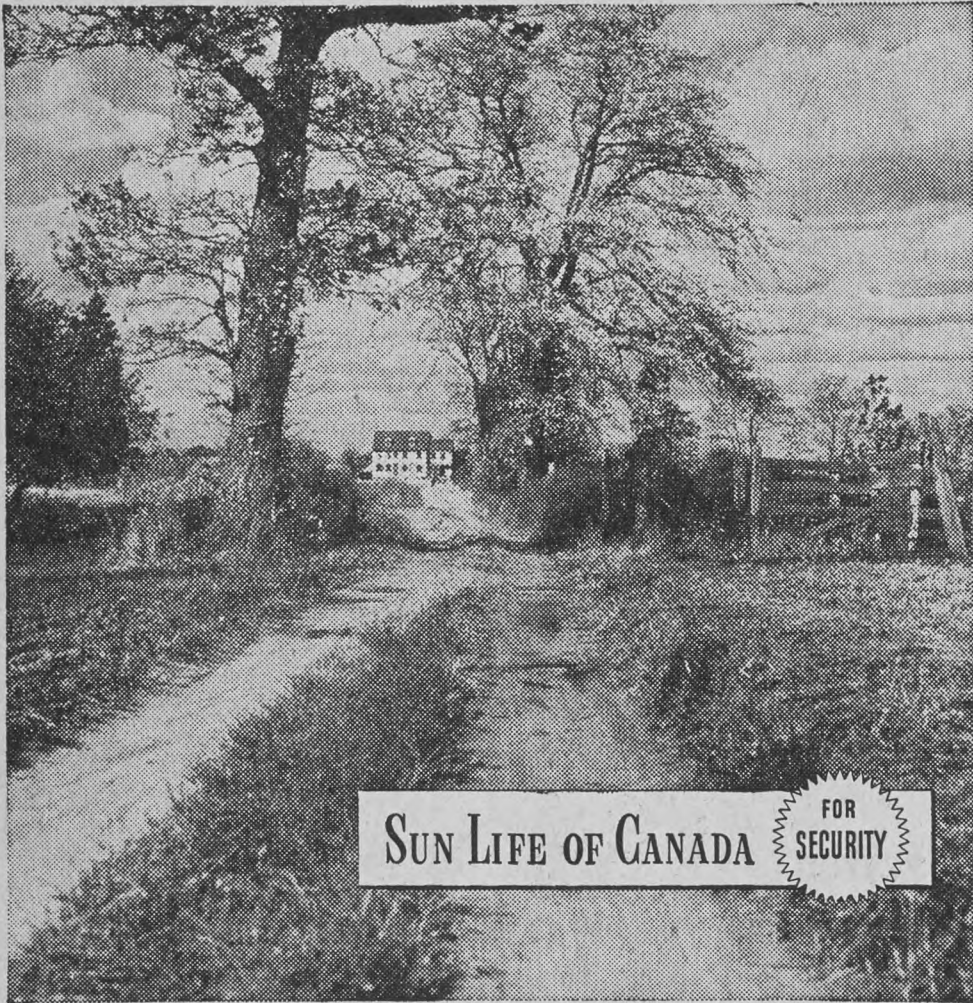
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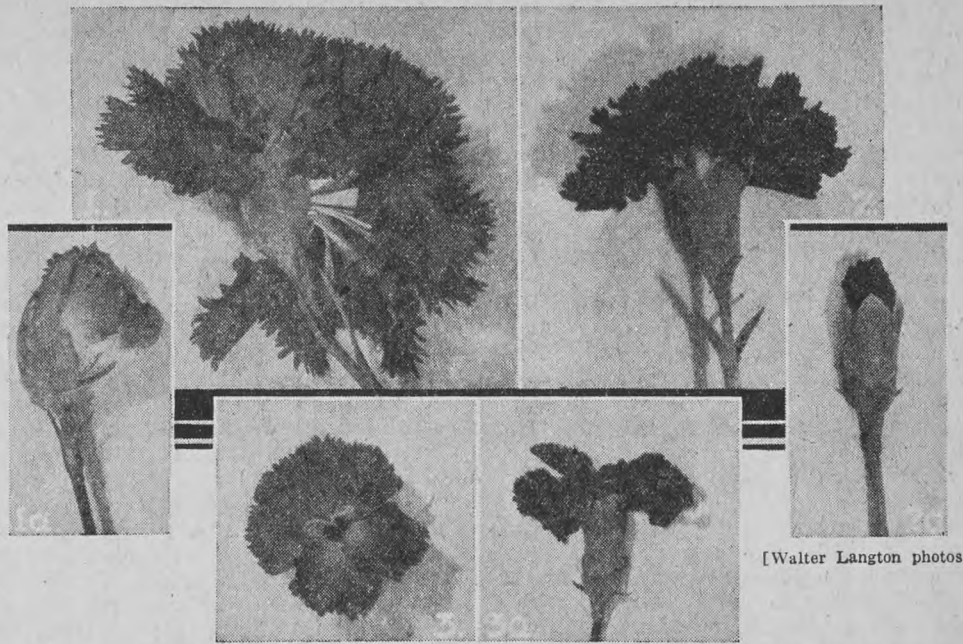
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HORTICULTURE



[Walter Langton photos]

1. Bull head carnation showing (1a) bud stage and subsequent splitting in the mature flower.
2. Double carnation type showing bud stage (2a). 3. Two close-ups of single type carnation.

Carnations for Canadians

By DELLIS ALLEN CLELAND

THOSE crisply fresh carnations you've loved are getting better every day. And with good reason.

Phenomenal strides in producing one of the world's most popular flowers—the carnation—are being accomplished in the horticulture greenhouse of the University of Alberta, Edmonton.

Dr. J. S. Shoemaker, newly appointed Head of the Horticulture Department at the Ontario Agricultural College, Guelph, Ontario, and formerly Professor of Horticulture at the University of Alberta since 1934, is the man behind the change. Year after year his students have been crossing flower seedlings in an effort to get carnations free from splits, free from diseases such as dreaded carnation rust (a fungus growth similar to rust in wheat), and flowers of improved size, color and yield.

This spring the small horticulture greenhouse on the university grounds bears proof of definite success; and names have been given to half a dozen brand new split-proof, rust-proof carnation types.

Of the two major evils, combating splitting of the calyx of the carnation, has been perhaps more difficult. Cause of the split is the growth of an extra bud just inside the calyx. By this abnormal growth, a "bull head" or lop-sided carnation, completely double and too large for commercial use, is formed. The bull head contains from 70 to 400 petals or petal structures, and is commonly called the black sheep of the family.

Other carnation types are the singles—which have five petals, and look much like the garden pink; and commercial doubles, which contain 20 to 60 petals. Deformed flowers can appear in any of the three carnation types.

One of the few places in the world where production of a perfect carnation is undertaken as a scientific study, the work began in Edmonton more than ten years ago. Starting with 35 varieties, about 100 crossings of carnations were made each year in the experimental greenhouse, with about 3,000 seedlings grown annually. Of these, 225 selections were made of flowers suitable for further testing.

Sometimes only one worth while new variety is developed from as many as

3,000 seedlings. White, lemon, maroon, pink, and buff with orange markings are just a few of the colors of the perfected carnations.

Carnations are by no means the only Shoemaker hobby. The twinkling-eyed, stockily built professor has just recently developed and named 17 new gladiolus varieties, with significant results. The new glads are well adapted for early blooming in the Prairie Provinces. "Glads are the best bulb plants for outdoor growing," is the opinion of Dr. Shoemaker. His new varieties, although planted at the same time as bulbs in eastern Canada, will bloom earlier, and fit with Alberta's short growing season.

Of equal importance is the ability of the new glads to reproduce good corms or bulbs year after year. Second year bulbs imported from the East had previously been found of little value in the West. Named in association with the Indian history of Alberta, the new glads carry the titles of: Crowsnest, Teepee, Assiniboine, Pembina, Athabaska, Kapasiwin, Hobbema, Kananaskis, Minnewanka, Wauneita, Wapiti, Yellowhead, Seebe, Sundance, Cree, Chinook, Wabamun.

On display during the summer in the outdoor test gardens of the university—of which there are 10 acres—the new glads include color shades of orange with apricot, clear red deepening to flame, corn yellow, white with mauve shading, and pink with red and white fleckings. Their blooming period covers from 82 to 110 days, and the flowers produce spikes as tall as five feet, with 16 to 20 buds on each spike.

Produced during a 10-year breeding period, the glads represent more than 1,000 controlled hand crosses, and about 36,000 seedlings grown. Development of the new varieties indicates a ratio of one worth while new type from each 2,000 seedlings.

In addition to his teaching, and other academic work, Shoemaker is also working to produce a new improved potato—free of diseases such as ring rot, leaf curl, scab, and blight. Of this, he insists he is only "carrying on the work begun before the war by an agricultural student from the University of Saskatchewan."

Double Worked Apple Trees

AN interesting talk with A. J. Mann of the Dominion Experimental Station, Summerland, B.C., on the occasion of my last visit there, revealed an interesting line of work for the development of greater winter hardiness in commercial varieties.

During the past 35 years, there have been four or five occasions, notably in 1909, 1915, 1925 and 1929 when many trees in commercial orchards suffered serious injury to the trunks and frame-

work during the winter. Such losses in commercial orchards are costly, and as a result it was decided to investigate the possibility of developing hardier frames for desirable commercial varieties until such time as thoroughly hardy varieties could be developed by the plant breeders.

The idea was to double work the trees so that variety to be fruited would be grafted or budded on another variety known to be hardy and resistant to

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crown rot, which causes considerable loss. In actual practice, of course, the hardy, disease-resistant framework variety would be grafted or budded onto the seedling rootstock used, and in August of the second or third year after planting the framework tree the variety which it is desired to fruit is budded or grafted on the framework thus established. In the Okanagan Valley, for example, varieties such as Delicious, Newton and Rome Beauty are a little tender for the Kamloops and Salmon Arm areas. If a framework could be developed of some variety compatible with these varieties and bearing high quality fruit, the latter can be grown in areas where an occasional hard winter might make their production unprofitable when grown on their own framework.

Mr. Mann has been engaged in this study for nearly eleven years, and something over 12,000 trees have now been planted co-operatively with growers.

Indoor Ripening of Green Tomatoes

MANY people in western Canada would like to harvest the tomatoes remaining green as frost approaches, and are not always certain as to how these might be ripened indoors and kept without deterioration. Charles Walkof, Assistant in Vegetable Crops, at the Dominion Experimental Station, Morden, advises as follows:

"The weather at harvest time has much to do with proper ripening of green tomatoes indoors. If the weather has been cool and damp at harvest, as it has been in Manitoba during the past few seasons, the tomatoes are inclined to develop soft and spongy tissue just under the skin. On the whole, the fruit feels quite firm. When such fruits are placed on shelves, or on a floor indoors to ripen up, the weight of the tomato slightly crushes that part which is next to the floor. The weight of a single to-

Fortunately, McIntosh has a high degree of resistance to this disease, whereas Canada Baldwin, for example, which was tried as a framework stock, has been found quite susceptible. Varieties found most satisfactory so far, as intermediate or framework stocks, have been Hibernial, which makes an excellent framework but is rather slow growing during early years; the Virginia crab, rather difficult to train, but more vigorous than Hibernial, although it makes poor unions with some varieties; and Antonovoka and Columbia.

Many different varieties have been tried as intermediate stocks, among them, some of the crab apple varieties well known in the Prairie Provinces, such as Osman and Robin. These, together with a number of other varieties, failed to produce good framework, notwithstanding their hardiness.

It is understood that in British Columbia there are now more than 50,000 double-worked trees growing.

mato is not very much, but it is sufficient to break down the cells on the underside surface. Thus, rot organisms enter the crushed area and eventually cause a deterioration of the entire fruit.

"In a number of cases fruit rotting is due to careless handling when the green tomatoes are picked. Bruising or puncturing the tomatoes will cause immediate rot.

"The approved method of ripening green tomatoes indoors is to take an apple box and an old catalog into the garden just before fall frosts threaten. Carefully pick the full-grown fruit, wrap it in a sheet of paper and place in the box, like wrapped apples. Make sure the bottom of the box is padded. Some folks wrap in cloth. However, this is immaterial since the important fact is that the wrapping material distributes more evenly the pressure which is put on each fruit by those on top of it."

Naming New Varieties

IN a pioneer horticultural area such as the Prairie Provinces, where not only universities and experimental stations, but many growers, are engaged in the breeding of new varieties, or the development of seedlings in the hope of combining productiveness with hardiness and quality, there is a tendency to produce and introduce a great number of varieties, especially by individual growers who come upon seedlings which they like and desire to introduce and name.

In most cases such discoveries are of short-lived value and are not deserving of introduction as new varieties. Their superior value is principally in the mind of the grower, who finds them better than anything he has himself, but who has not been in a position to compare them with other varieties which he is not growing.

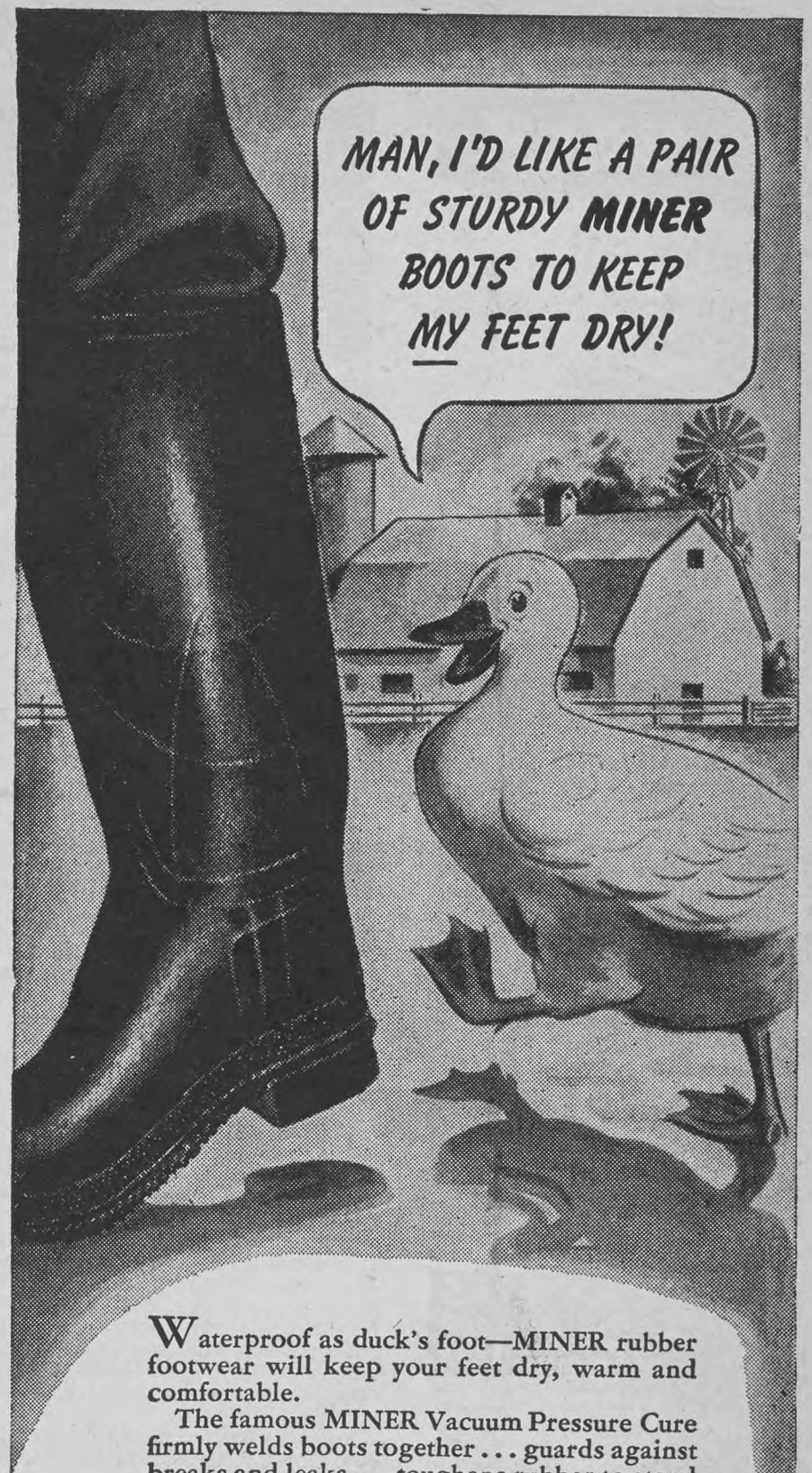
Occasionally, however, a new discovery merits a name, in which case a conscientious effort should be made to choose a name which will comply with certain rules customarily observed as the result of long experience by plant

breeders and specialists in horticulture. Thus, it is much preferable to confine a name to a single word, or not more than two. Special effort should be made to avoid using a name which is already borne by another variety of the same kind of fruit. Similarly, the names of two existing varieties should not be compounded to form a new name. Hyphenated words are not desirable. Possessive words should not be part of a name, such as Jones' Pride, nor should initials or titles be made part of a name such as, Dr. Smith or J. B. Brown.

There are good reasons for all of these suggestions which have been accepted by horticulturists throughout North America; and it would be well for anyone who proposes to name a new selection or seedling, to consult the horticulture department of his provincial university, or one of the Dominion experimental stations, such as Morden, Manitoba; Summerland or Saanichton, B.C., or the Provincial Horticultural Station at Brooks, Alberta. Help will be available from any of these institutions for the suitable naming of any new variety.



Fruit on the original tree of Heyer No. 12 apple at the farm of A. Heyer, Neville, Sask.



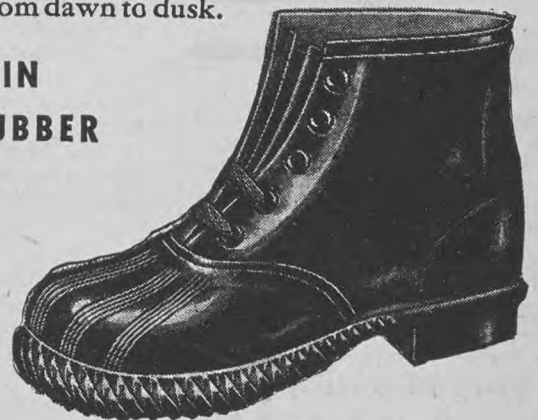
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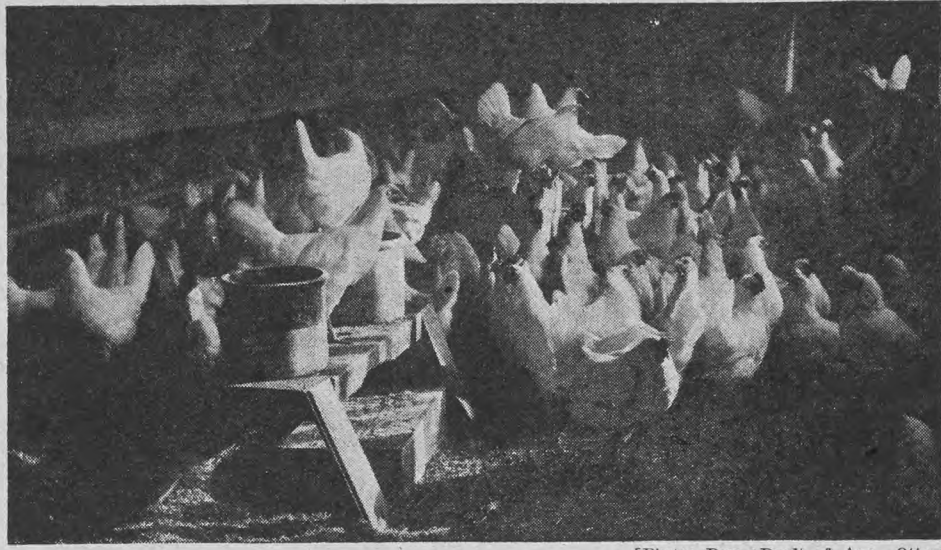
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POULTRY

Conducted by Professor W. J. RAE, University of Saskatchewan



[Photo: Dom. Dep't of Agr., Ottawa.]

Young pullets coming to the laying house for the first time, need careful handling.

Blood Spots

EVERY producer of market eggs should be vitally interested in the cause of blood spots in eggs. Very few shipments of eggs received by candling stations are absolutely clear of this abnormal condition. Some shipments are consistently bad, while others only show these spots at infrequent intervals. A number of shippers report a higher incidence at certain times of the year than at others. Then too, some breeds or strains within a breed appear to lay eggs with more of these objectionable spots than do other breeds. Such eggs have no market value and they show up on the candling returns as "rots."

This condition has become a really serious one because it represents a tremendous loss in the course of a year's production to the individual producer. It is also interesting to note that many small spots escape detection even by the most experienced candler. The Illinois Experiment Station reports some results of a survey which they made last spring. It was found that spots were found in 48 per cent of the heavier breeds and in 27 per cent of the Leghorns. It was also noted that when birds were on good grass pasture, the percentage of spots was noticeably reduced as compared with its occurrence when birds were confined.

The spot itself is caused by a rupture of a tiny blood vessel in the follicle or yolk sac. Just why these vessels rupture, no one knows.

R.O.P. breeders have been making a number of observations on this condition and from the limited amount of information available, it would appear that there is a tendency for this defect to be passed on through inheritance. This suggests that selection for freedom from blood spots is the proper attack on this problem. Since it is a problem of considerable economic importance, poultry breeders should plan to check up on the occurrence of this condition in the various family groups, and to retain for breeders only those families found to be free of spots.

Use DDT With Care

FLIES and mosquitoes in and around the chicken houses can now be readily controlled by the use of DDT. If this widely advertised insecticide is properly applied twice during the fly season, complete control of these pests can usually be expected. This material is prepared and sold in different forms and under different trade names. The powdered form is commonly used mixed with oil or water and then applied as a spray on the walls, ceilings and wherever flies tend to congregate. It is well to remember that this is a poison, and should be handled with extreme care. Do not apply heavy doses to wall surfaces where there is danger of animals or humans rubbing it into their skins. Be sure at all times to keep the powder and spray material well out of the reach of small children; otherwise there is danger of serious effects. Also be careful that the dead flies do not fall into food materials such as milk, etc. There

is some evidence that DDT can also be used in the control of mites and lice, but so far, it is not nearly as effective against these insects as against flies. Until such time as further evidence of the value of DDT against poultry parasites is available, it would be advisable to continue the use of coal oil and crank case oil to combat mites and to use sodium fluoride or nicotine sulphate to keep lice under control.

Newcastle Disease

IN 1927, a new poultry disease was discovered in the vicinity of Newcastle, England. Since that time, the same disease has been identified in Germany, Australia, Italy, and United States. It has been named Newcastle disease.

There have been no official reports of its occurrence in Canada, but one never knows when it may put in an appearance. It is considered serious enough in United States to cause Congress to appropriate a considerable sum of money for the purpose of conducting a thorough test of its effects and to discover, if possible, a suitable method of control. The average poultryman will have considerable difficulty in identifying this disease. Therefore a detailed description of its symptoms would be of little value. But we do suggest that if a flock owner finds any serious sickness affecting his flock, he should immediately send one or two sick birds to his nearest animal pathologist. These birds should be shipped by prepaid express. This diagnostic service is offered free of charge. The laboratories equipped for such public service are usually located at the Provincial University. The locations of western universities are at Winnipeg, Saskatoon, Edmonton, and Vancouver.

Egg Coolers

HIGH temperatures and dry atmospheres are both serious enemies of egg quality. Eggs should be cooled as quickly as possible after they are laid. A holding temperature of from 50 to 60 degrees is reasonably satisfactory on the farm, provided there is sufficient moisture in the air. If there is a good basement under the farm home, the problem of holding eggs is much easier than on farms where the house does not have a basement. A very simple cooler might be constructed and used to advantage. Such a cooler consists of a box large enough to be divided into three compartments. The upper one large enough to hold the empty egg case or cases, the middle one to hold the filled or partly filled cases and the lower one used as space for the egg pails or baskets. The front should be fitted with a door hung on hinges, the back is open. Over this open back should be draped a piece of sacking large enough to cover the opening. One end of the sack should be placed in a pan of water on top of the cabinet. The bottom portion of the sacking hangs in an empty pan which will collect any surplus moisture which may drip from the sacking while the cooler is in use. Keep the pan on top of the cabinet filled with water.

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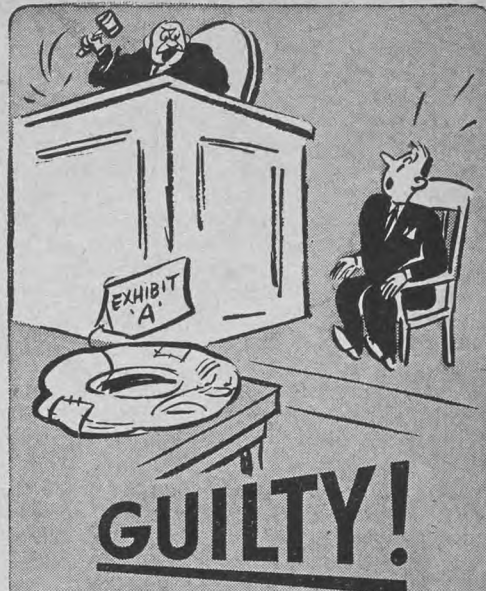
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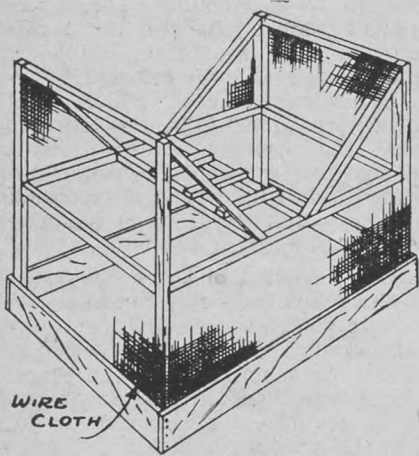
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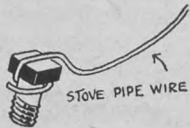
Magpie Trap

THE framework is made of 2x4's and 2x2's, with 1x8 boards around the bottom. All sides and the top sections are covered with wire cloth or small mesh poultry netting. A section on one side is hinged so it can be opened easily for entering and killing the pests and liberating any desirable species. The entrance is about three feet from the ground between the sloping top sections, being a slot about four inches wide extending across the six-foot width. On it are nailed several crosspieces on which the magpies can rest before dropping to the bait below. Entrails or exposed meat make the best bait, and the trapped birds fluttering around trying to escape attract other birds. Even crows might be caught if one side is hinged up until they get used to feeding inside and then closed with a long wire.—I. W. DICKERSON.



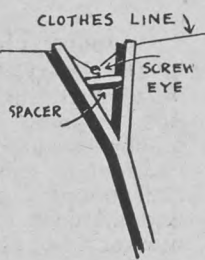
Bolt Fastening Kink

I have found this trick invaluable while working on machines or overhauling tractors or automobiles. Often we have to put a bolt in such an awkward place when re-assembling that it is impossible to reach it with the fingers. A piece of soft wire is wound a complete turn around the bolt, under the head and then bent right over the top of the head. It is then easy to insert the bolt in the hole. After the nut has been turned on just enough to catch the thread, the wire is pulled off. Hay wire or stove pipe wire is used.



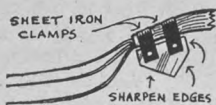
Clothes Line Pole

Common clothes line poles have a way of slipping and causing the line to drop, dragging the clothes in the mud. If the pole is split at one end and a spacer nailed about a foot from the end and then a screw eye placed in the middle of the spacer the weight of the clothes on the line will cause it to lock and prevent slipping.—PAUL TREMBLAY, St. Paul, Alberta.



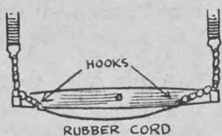
Band Cutter

Last fall I had occasion to put a good many stooked sheaves through the combine as there was no threshing machine available. To cut the bands with a knife, then put down the knife and pick up the fork to throw the sheaf into the machine was altogether too slow for one man. I found that by clamping a section of sickle to the handle of the fork in the manner shown that it was possible for one man to cut bands and feed the machine almost as fast as he could feed a regular grain separator. The idea works just as well for feeding a hammermill, cutting box or silage mill. Be sure to first sharpen the section all the way up each edge so that there is no unsharpened spot to come in contact with the twine.—E. J. McFARLAND, Loma Stock Farm, Vulcan, Alta.



Trace Drop Preventor

This arrangement keeps the drop links from hooking into the other horse's singletree hooks. A strip of inner tube can be used with hooks made from spikes attached to each end. If necessary it can be wrapped around the singletree once to keep it from hitting the horse's hocks.—NORMAN HARRIS, Edgeworth, Sask.



Bonding of Babbitt

The bonding of babbitt to a connecting rod is a considerable problem, due apparently to the fact that all rods and babbitts are not of the same composition. In general the following procedure should produce good bonds with ordinary babbitt:

Melt or otherwise remove all the old babbitt from the rod, keeping the temperature as low as practical. This might be satisfactorily accomplished by dipping the connecting rod in a pot of molten scrap babbitt.

Brighten all the surface to which the babbitt is to adhere. This may be done with a steel scratch brush, steel wool or emery cloth.

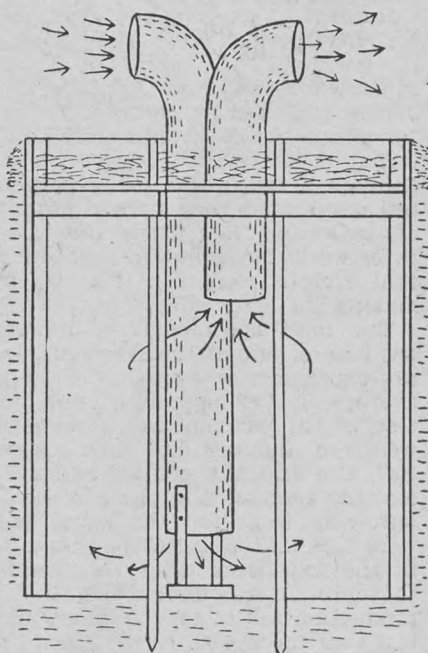
Apply flux to the surface to be tinned. Zinc chloride solution is usually a satisfactory flux.

Dip the fluxed rod in a pot of molten pure tin. Lift out and examine. Wipe the tinned surface with dry waste to remove excess tin and to observe the completeness of the coating. Where incomplete add more flux and dip again. Small spots untinned may be attacked by use of a soldering iron.

When all the rod is tinned it can then be babbitted and the babbitt will adhere to the tin. Some trouble may result if the rod is not hot before pouring.—G. L. SHANKS.

Improvement to Ice Cellar

Our ice cellar is 7-ft. x 7-ft. square and 7-ft. deep. The cribbing extends about one foot above ground level. It is banked up on the outside to keep out surface water. The ceiling of the ice well is a wooden platform at the ground level and above it the cribbing



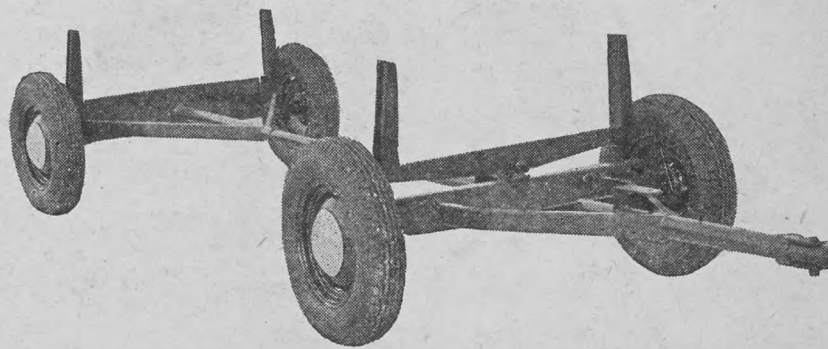
is filled with straw. Our problem has been to freeze the ground from the inside of the cellar for 6 or 8 feet in all directions so the ice will not melt so rapidly on the sides and bottom. By placing a couple of pieces of old blower pipe through the trap door as shown in the sketch, this can be accomplished. This wind will generally be blowing into one pipe and out the other and if the cellar is kept clear of snow it should be well frozen by March. The ice should be cut earlier in the winter and piled near this ice cellar and covered with a load of straw. Toward spring the ice is put in the ice cellar and straw is spread on the ground all around to keep the frost in, near the ice cellar, as long as possible.—JAS. E. MOSCRIP, Major, Sask.

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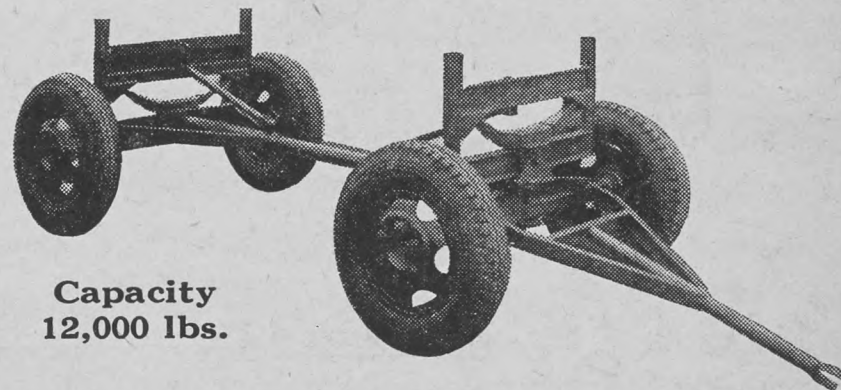
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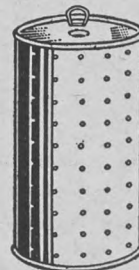
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Jacking Up the Fat Test

Stimulating the thyroid gland elevates it half of one per cent

WHEN a cow turns in a butterfat test that gives every bovine matron within bawling distance an inferiority complex what has been done by, to, or with her?

It is possible to jack up the butterfat percentage for a limited time after calving. The trick is to fatten the cow up before freshening until she looks, as near as a dairy cow can look, like an entry in a fat stock show. Then, after she has dropped her calf you can put her on famine rations. She can't give much milk, for she isn't taking in enough up front to make much milk out of. But her system has the urge to produce. It is the maternal urge, a divine discontent, to keep her calf contented. And so she draws on that stored up fat in her carcass. And how she draws! By subtle vital processes the tallow fat is extracted from her tissues, transformed into butterfat, and passed along to the calf or the milk pail.

It is pretty hard on the cow, putting her through an enforced hunger strike. It doesn't do her any good to wine and dine her until she is as fat as the proverbial seal and then cruelly subject her to a man-made famine. But it gets results in a short-term butterfat test. R.O.P. work is based on the 305-day or the 365-day test. A Record of Performance is a more enduring test than one which lasts only a week or a month.

Another of these Wonder Drugs

But there is another way to increase the butterfat content of cow's milk. Here a few years ago a young scientist, Canadian born but now lost to the United States, got on the trail of an idea which made him famous. His name is W. R. Graham, Jr. The Sr. in this case is Professor W. R. Graham, for several decades professor of Poultry Husbandry at the Ontario Agricultural College.

Graham, Jr., was the first to notice that the thyroid gland has a profound influence on the level of milk and milk fat secretion of cows. More than that, he found that the active principle of the thyroid gland was thyroxine. But here economics came in. Thyroxine is costly to isolate and extract. Then some other researchers found a substitute. It is called thyroprotein, built up from iodine and casein. This throws a cow into high gear in milk and butterfat production. But not high enough to snarl the traffic.

Records of experiments available are for short periods only. Away down east in New Jersey five cows, two Holsteins, a Brown Swiss, and Ayrshire, and a Jersey were fed synthetic thyroprotein for a three-week period. Before administering it, however, the cows were put through a two-weeks pre-experimental test to establish their normal production of milk and fat. Then followed the three weeks thyroprotein test, and after that records were kept for two weeks looking for after effects.

The most spectacular result was in the case of one of the Holsteins. In the pre-experimental period she gave an average of 15.2 pounds of milk a day testing 3.31 per cent fat. For the three weeks of the test her milk yield was 15.7, 15.3 and 14.6 pounds as the average for each of the three weeks. The butterfat tests for the same periods were 3.24, 3.63, and 3.57 per cent. Then, in the first week after the feeding of thyroprotein was discontinued her milk production fell to 13.0 pounds while the test shot up to 4.82. In the second post-experimental week milk production fell to 10.3 pounds per day while the butterfat percentage fell to 3.67. The other Holstein's greatest increase for a week was 4.7 pounds of milk a week while her highest test was .34 per cent above the pre-experimental period.

Over the period the weighted average increase for the five cows was 1.7 pounds of milk per day while the weighted average increase in butterfat test was .51 per cent. In discussing the results of the experiments the scientists said, as reported in the Journal of Dairy Science: "It appears that the feeding (of the thyroprotein) in moderate daily doses will definitely increase the butterfat content of milk. This increase in butterfat content is not accompanied by either any great increase in milk

production or a great loss in body weight. There is no objection to increases in milk production, in fact, they are most desirable provided they can be obtained without encountering severe losses in body weight. Certain cows are good milk producers but low testers. Obviously such cows should not be fed large amounts (of thyroprotein), for that would result in severe losses of body weight. If, however, moderate doses will increase fat test, and this experiment indicates that they will, then it is certainly advantageous to feed it. On the other hand, many cows increase in body weight at the expense of milk production, and such cows should receive larger doses.

"The feeding of 10 grams of thyroprotein daily for three weeks to a group of five dairy cows increased the butterfat content of the milk from 3.62 per cent to 4.11 per cent. The average milk production was increased from 23.3 pounds to 25.0 pounds. Losses in body weight were slight and heart rate increases were moderate. Solids-not-fat did not appear to be affected."

Other experiments, which it is not necessary to describe, showed evidence that the thyroprotein was not transmitted to the milk. This would indicate that there is no danger of complications arising when the milk is consumed by either animals or humans.

Matters of Dairy Policy

But another matter comes up. Should cows on official test be fed thyroprotein? Already in the United States the matter had been taken up and the practice is not allowed. In Canada, however, there is no regulation prohibiting or governing the practice.

Experiments are being continued in the United States. If, for example, the butterfat test of a heavy milking herd could be jacked up from 3.5 per cent to 4.0 per cent it would have a marked effect in fattening the figures on the milk check. But what would be the long-term results of using the drug? Would it have any adverse effect on the cow if fed continuously during her lactation period? Would her life as a producer be shortened? Since the milk is not otherwise changed except in the increase of the fat the skim milk is not affected and apparently no ill effects would follow from feeding it to calves, pigs, or poultry, but would the calf the cow is carrying while being milked be affected in any way?

It will take time to determine all the factors but in this scientific age no one can tell what will happen next. What is being done experimentally today may become common practice tomorrow.—R.D.C.

Junior Flockmaster Project

THE University of Saskatchewan, through its Extension Department, has initiated a flockmaster project among Saskatchewan junior farm clubs, in order to create greater interest and skill among junior farmers in the care and management of sheep and in the marketing of sheep products. A further object of the project is to encourage the establishment of flocks of ewes, or to assist in the management of home flocks.

Applications to take part in the project must be made before November 1, to the Extension Department, University of Saskatchewan, Saskatoon, or to the agricultural representative in the district. Boys and girls may enter who are 14 years and under 21 years of age on November 1. A club member may own not less than five ewes at the beginning of the project or may assume responsibility for a flock of ewes on a share basis, if a flock already exists on the home farm. Each member, moreover, must personally feed and take charge of the flock and must keep an accurate record of shearing, lambing, finances, feeding and other details.

Awards on this project will be made on the basis of a perfect score totalling 1,000, of which care and feeding methods will count for 400 points, regularity and accuracy in forwarding reports 200 points, and on the general record of the year's work including the financial statement 400 points.

CHAMPIONSHIP ROUND-UP

Continued from page 9

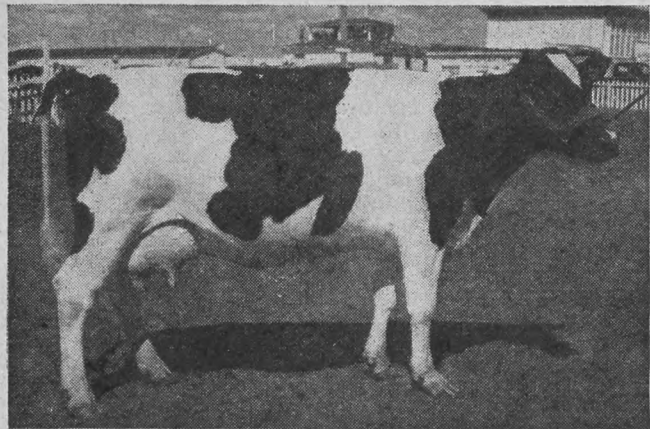
Whitefaces and Doddies

IN Herefords, the only herd which attended every exhibition on the circuit was that of O'Neil Brothers, Denfield, Ontario, but local and semi-local exhibitors furnished good competition throughout. The O'Neil herd had the All-Western junior yearling bull winner in Royal P. Domino, and also the high-scoring animals in both junior yearling and summer yearling heifer classes. Real Panama for Miss F. E. Boggs, of Bottrel, Alberta, topped in summer yearling bulls. The most consistent of all Hereford winners on the circuit was the Miss Boggs' senior yearling heifer, Carlos Lady. With four grand championships to her credit, this heifer duplicated the distinction which she gained on the same circuit of Exhibitions in 1945. She is a heifer with superb head, great width of back and good fleshing.

What may have been the best Hereford bull seen at the 1946 Exhibitions, was Real Prince Domino Reward, a three-year-old with which J. A. Paul won the grand award at Calgary. But the Paul cattle were shown at one exhibition only and consequently this good bull of Jack Paul's own breeding does not qualify for All-Western distinction.

Brandon could boast the biggest and best show of Aberdeen-Angus cattle and from that point the herds of George Jones, of Winnipeg, and Kenneth Holt, of Craven, Saskatchewan, went on to Calgary and Edmonton. At Calgary, the herd of T. A. Smart & Sons, of Atwood, Colorado, joined the circuit and remained to the end. At every show, however, there were enough new exhibitors to ensure a good fight for the best ribbons.

The Aberdeen-Angus bull winning the highest number of points at five exhibitions was Craven's Revolution Bonnie Lad. This bull was grand champion at Saskatoon and Regina, but had to accept reserve grand championship to the George Jones bull, Bandolier Blackcap 5th, at Brandon, Calgary and Edmonton. Because the Jones herd, under the able direction of William Fraser, left the circuit at Edmonton, there was no chance for All-Western distinction



Elie Heilo Pietje, All-western Champion female for Rockwood Farms, St. Norbert, Man.

and nearly all the class leaders were from the Holt herd.

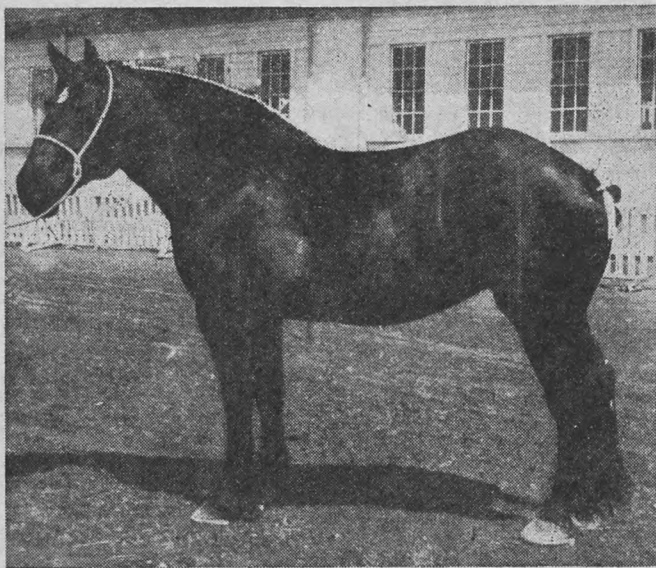
The Dairy Breeds

THE Rockwood Holstein herd from St. Norbert, Manitoba, went right around and encountered fresh competition at every show. Rockwood Bonerges Posch, a 2,450-pound son of the Ellen cow which was a consistent champion on the circuit two years ago at the age of 15, won the grand for bulls at Brandon, Saskatoon and Regina. That great Hays bull, Westland Hayden Monarch was

grand at Calgary; and Daleford Fernie Little Joe won the purple at Edmonton for R. P. Gibb. The Rockwood two-year-old, Houckholme Sovereign Sky Rocket, was undefeated in his class and won reserve grand championship at each of the five competitions.

At Calgary, the Pickard and Clark cow, Fanny Snowden DeKol won the female championship for Holsteins, and at Edmonton the honor went to Tuxedo Ormsby for B. E. Hosford; but otherwise, it was Rockwood's cow, Elie Heilo Pietje who was winning the female championships.

Once again that great Jersey bull, Lindell Lady's Royal, owned by Bellavista Farms Ltd., Milner, B.C., was undefeated in grand championship competitions, and many of the Bellavista young things winning All-Western honors are by that noted bull. Four dif-



Starlight Koncarness, winner of All-western Percheron mare championships for Harry Salter, Calgary.

ferent Jerseys figured in the five grand championships for females at the five exhibitions. The only cow to win two grand championships was Grafton Masterman Toots who went to the top at Saskatoon and Regina.

There was strong Jersey competition at every show, but most of the All-Western honors went to the Bellavista Farms herd which attended four exhibitions and the Henry Thompson and Son herd which was at three of the shows.

The Ayrshire showing at Calgary represented an all time high for western Canada. It was the biggest breed display of the exhibition season. The grand champion bull, Strathglass General's Valour, owned and exhibited formerly by the late Dave Steel, now heads the good herd of Hodgson and Borrett, of Forest Lawn, Alberta. Many of the top awards at that memorable Calgary show went to Hodgson and Borrett. From Calgary, several Ayrshire herds went on to Edmonton, but only the Edenbank herd of Oliver N. Wells of Sardis, B.C., completed the circuit. Edenbank had the grand championship for females at Calgary, Edmonton, Saskatoon and Regina, and the bull championship at each of the latter two shows. Two Wells cows figured in the championships, but it was Edenbank Ella 3rd that had the highest number of points and may thus be regarded as the All-Western champion. This cow was sold for calf club purposes when a youngster and later brought back to Edenbank where she is proving to be a

great producer as well as a show cow of note.

Percherons Steal Four Shows

CLYDESDALES had the best of the horse showing at Brandon, but Percherons had the biggest entry from there forward. When the yeld Percheron mare class was called at Saskatoon, 12 splendid mares came forward to make one of the most attractive competitions seen in years; and at Regina the following week, there were 16 mares in

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From the Calgary show on, the five-year-old McConachie stallion, Justamere Nixy and the R. O. Sykes three-year-old stallion, Silver Jim, were battling it out for the purple ribbon; and at the same time, Salter's Starlight Konkarness and the Justhome entries, Midwood Misviso and Leonia were holding the spotlight in the mare championship classes. When the scores were totalled, the All-Western honors went to the stallion Justamere Nixy and the mare Starlight Konkarness. Those two thus qualified for the Percheron Association Achievement Banners, offered for the mare and stallion finishing with the highest number of points on the A Circuit. It was Starlight Konkarness that won one of the Achievement Banners when they were first offered in 1945.

The showing of Belgians was light until the horses owned by Robt. Thomas of Grandora, joined the circuit for the last two exhibitions. The Belgian stallion with the highest score for the season was Myron E. Latam's two-year-old, Prince Valeur. It is noteworthy that this sorrel colt is by King Valeur, a 17-year-old horse which was fresh

enough to win the stallion championship at Edmonton for Mr. Latam.

Peggy Farceur, also by King Valeur and owned by Mr. Latam, won the grand for Belgian females at Calgary and Edmonton, but was obliged to bow to Paragon Kitty at Saskatoon and Regina. Paragon Kitty was duplicating her show-ring performance of 1945, but with a record at two 1946 shows only, the Kitty mare did not gain the highest score. Peggy Farceur had 29 points at four shows.

Clydesdale stallions were not sufficiently numerous to permit an analysis. Some good mare classes came forward however. Clydebanks Lady Joan, the great mare shown by A. E. Arnold at Shoal Lake, Manitoba, won the grand at the first two exhibitions of the season and then retired from the circuit. The Lawrence Rye mare, Oliver Favorite Lady which was Reserve Grand at Calgary, was Grand at Edmonton and then changed hands to become the property of Mr. Claude Gallinger. The Cruickshank Clydesdales came in for the Saskatoon and Regina Exhibitions; and one of them, Gowan Glen Orange Blossom, a former champion, won the supreme award at both exhibitions.

The All-Western Winners

(The naming of "All-Westerns" was attempted only where there was competition and a good degree of continuity from one Exhibition to another. A certain lack of uniformity in show-ring classifications, too, tended to limit the number of classes in which the winners could be established.)

CLASS	ANIMAL'S NAME	OWNER	SCORE
Two-year-old bull	M. F. Goldfinder	Merryvale Farm, Missouri	43
Senior yearling bull	Son of Prince	Merryvale Farm, Missouri	19
Junior yearling bull	M. F. Prince Peter 5th	Merryvale Farm, Missouri	21
Summer yearling bull	Killearn Norseman 37th	W. A. Dryden & Sons, Ontario	24
Bull calf	Majestic Remembrance	McFarlane & Edwards, Ont.	24
Two-year-old female	Leeland Roan Lady 39th	H. M. Lee, Ontario	18
Senior yearling female	Eldorado Jilt	F. H. Deacon & Sons, Ont.	45
Junior yearling female	Choice Mayflower 14th	Merryvale Farm, Missouri	36
Summer yearling female	M. F. Miss Ramsden	Merryvale Farm, Missouri	23
Heifer calf	Divide Fancy 22nd	Merryvale Farm, Missouri	18

CLASS	ANIMAL'S NAME	OWNER	SCORE
Two years or over bull	Cravens Revolution Bonnie Lad	Kenneth Holt, Craven, Sask.	35
Senior yearling bull	Cravens Revolution 2nd	Kenneth Holt, Craven, Sask.	19
Summer yearling bull	Cravens Revolution Jerry 2nd	Kenneth Holt, Craven, Sask.	28
Bull calf	Cravens Eston Quality	Kenneth Holt, Craven, Sask.	15
Two years and over female	Cravens Revolution Barbara 2nd	Kenneth Holt, Craven, Sask.	18
Senior yearling female	Cravens Revolution Blackcap 5th	Kenneth Holt, Craven, Sask.	36
Junior yearling female	Cravens Revolution Blackcap 7th	Kenneth Holt, Craven, Sask.	29

CLASS	ANIMAL'S NAME	OWNER	SCORE
Junior yearling bull	Royal P. Domino	O'Neil Bros., Ontario	17
Summer yearling bull	Real Prince Panama	O. A. Boggs & Sons, Alberta	18
Bull calf	Real Tone Panama	Miss F. E. Boggs, Alberta	14
Two-year-old female	Woodlands Lady Bacaldo 2nd	W. N. Oatley & Sons, Sask.	8
Senior yearling female	Carlos Lady	Miss F. E. Boggs, Alberta	33
Junior yearling female	Miss Silver Domino	O'Neil Bros., Ontario	18
Summer yearling female	Donaldo Domino	O'Neil Bros., Ontario	28
Heifer calf	Miss Belle Panama	O. A. Boggs & Sons, Alberta	12

CLASS	ANIMAL'S NAME	OWNER	SCORE
Mature bull	Rockwood Boneriges Posch	Rockwood Holsteins, Man.	26
Two-year-old bull	Houckholme Sovereign Sky Rocket	Rockwood Holsteins, Man.	28
Senior yearling bull	Rockwood Visigoth	Rockwood Holsteins, Man.	11
Junior yearling bull	Rockwood Dot E Posch	Rockwood Holsteins, Man.	13
Bull calf	Mangara Zena Snowden Posch	Rockwood Holsteins, Man.	13
Cow	Elle Heilo Pietje	Rockwood Holsteins, Man.	26
Two-year-old female	Managra Columbine Lenore	Rockwood Holsteins, Man.	11
Senior yearling female	Rockwood Nancy O Posch	Rockwood Holsteins, Man.	19
Junior yearling female	Rockwood May DeKol Posch	Rockwood Holsteins, Man.	18
Heifer calf	Parthena Carstairs Rockwood	Rockwood Holsteins, Man.	25

CLASS	ANIMAL'S NAME	OWNER	SCORE
Mature bull	Lindell Lady's Royal	Bellavista Farms, B.C.	30
Two-year-old bull	Grafton N. Bly Observer	Henry Thompson & Son, Sask.	13
Senior yearling bull	Bellavista Samaritan Royal	Bellavista Farms, B.C.	13
Junior yearling bull	Grafton O. D. Pinnacle	Henry Thompson & Son, Sask.	7
Bull calf	Grafton Pinnacle Snowdrop	Henry Thompson & Son, Sask.	6
Cow	Bellavista Royalist	Bellavista Farms, B.C.	19
Three-year-old heifer	Grafton Masterman Toots	Henry Thompson & Son, Sask.	25
Two-year-old heifer	Blossoms Gift	Bellavista Farms, B.C.	10
Senior yearling heifer	Bellavista Checkmate Lady Basil	Bellavista Farms, B.C.	12
Junior yearling heifer	Grafton Carry On Toots	Henry Thompson & Son, Sask.	12
Heifer calf	Grafton Pinnacle Starlight Lady	Henry Thompson & Son, Sask.	12
	Bellavista Favorite	Bellavista Farms, B.C.	12
	Bellavista Pinnacle Jane	Bellavista Farms, B.C.	19

CLASS	ANIMAL'S NAME	OWNER	SCORE
Mature bull	Edenbank Ringleader	O. N. Wells, B.C.	20
Two-year-old bull	Hermitage Golden Ambassador	Richards Brothers, Alberta	9
Senior yearling bull	Edenbank Robin Beauty	O. N. Wells, B.C.	25
Bull calf	Edenbank Ringmaster	O. N. Wells, B.C.	19
Cow	Edenbank Ella 3rd	O. N. Wells, B.C.	29
Senior yearling heifer	Edenbank Robin 2nd	O. N. Wells, B.C.	16
Junior yearling heifer	Edenbank Robin Lass	O. N. Wells, B.C.	13
Heifer calf	Edenbank Robin May	O. N. Wells, B.C.	14

CLASS	ANIMAL'S NAME	OWNER	SCORE
Stallion, 3 years and over	Justamere Nixy	Justhome Ranch	35
Two-year-old stallion	Acme Carcalyps	Greenway & Clark	12
One-year-old stallion	Riverbow Chasseur	R. O. Sykes	7
Foal, either sex	Starlight Olelaet	Hardy E. Salter, Alberta	13
Brood mare	Starlight Jean	Hardy E. Salter, Alberta	16
Yeld mare	Starlight Konkarness	Hardy E. Salter, Alberta	37
Three-year-old mare	Justhome Netta	Justhome Ranch	19
Two-year-old mare	Koncar Laette	Hardy E. Salter, Alberta	10
One-year-old mare	Evelyn B	C. J. Hanson	7

CLASS	ANIMAL'S NAME	OWNER	SCORE
Two-year-old stallion	Prince Valeur	M. E. Latam	11
Brood mare	Irvondale Maud	M. E. Latam	15
Yeld mare	Peggy Farceur	M. E. Latam	29
Three-year-old mare	Paragon May	Robt. Thomas	6
Two-year-old mare	Jessie Valeur	M. E. Latam	14

Lightning Rods

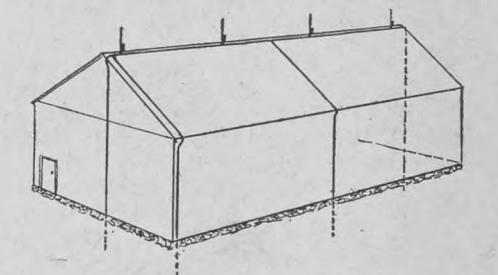
By Prof. L. G. SHANKS

LIGHTNING rods of proper material and correctly installed give almost absolute protection to farm buildings against the danger of a lightning bolt. As neither the cost of material nor the labor cost of installation is very high, there seems no good reason for omitting this form of protection to all farm buildings.

The essential parts of a lightning rod system are three in number—the grounds, the conductors, and the points. If the system is to give adequate protection, each part must be carefully installed and no skimping can be tolerated. The whole system may be constructed of either stranded copper or galvanized iron cable but should be entirely of the one material. The wire used should be at least 5/16 inch in diameter and larger wire can be used to good advantage.

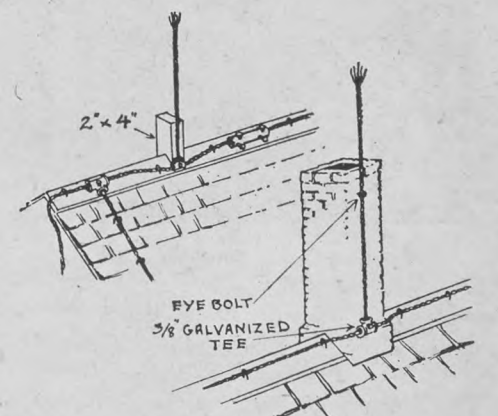
The system must be permanently connected to moist earth at two points on a small building and three or more on larger buildings. Iron rods driven 8 to 10 feet into moist soil are usually used but it is more efficient to bury the end of the cable. A location which is always damp should be chosen although most commonly the diagonally opposite corners are chosen.

The conductors are made of cable and connect the points to the ground. Sharp bends should be avoided and in-



ulators must not be used. Simply staple the cable to the wall or roof. Metal hay tracks, etc., should be connected to the system. In general the conductors will run up the wall of the building near a corner, loop over and connect with the eavetrough and then up the roofing to the ridge and continue along the ridge and finally down to the other ground. By preference this whole circuit of cable should be in one length without splices.

The points may be made from 3-foot lengths of the cable. A point should be used every 20 feet in length of the ridge and chimneys should have an extra point extending three feet above the chimney. To make a point from the cable unwind three inches of the cable and spread the strands apart brush like. File each strand to a sharp point. The opposite end of this short length of cable must be spliced to the main cable. This may be done by the use of special



fittings, pipe tees fitted with set screws, or by carefully twisting each strand tightly around the main cable. A tight joint is essential in all cases. After the point is installed it should be braced in a vertical position either by a piece of 2x4 nailed to the ridge or by means of metal guys.

KATHLEEN TO BURWASH LANDING

Continued on page 7

the small trading post and a vegetable garden which her husband had developed for irrigation, and the produce from which she counted on selling to one of the large stores in Whitehorse with branches at several points in the Yukon. She it was who, a year or two before, had "made" the news because of her valiant and single-handed stand against officialdom of the Alaska Highway who proposed to plant a telephone or telegraph pole in the midst of her irrigation ditch. When words were of no avail against a workman's instructions from his superior, she tried the effect of a gun, which was successful in bringing the boss promptly to the spot. He immediately saw the point and altered his instructions accordingly. It was Mrs. MacIntosh who told us that after having studied the northern Indians for a long period, she concluded they must have immigrated a long time ago from Asia, because the predominant type was definitely Asiatic.

We crossed Bear Creek at or near the trading post and again climbed toward the summit. The farm was at an elevation of 1,945 feet, and by the time we reached the summit, nine miles away, the altitude was 3,400 feet. After this the road dropped 400 feet in the next nine miles. Climbing toward the summit we of course saw a great deal of spruce which Mr. Abbott said were a distinct type of species known as Nahannie spruce. Once the summit was reached, we were out of the Dezadeash Valley and into another valley leading to one of the most beautiful of the Yukon lakes—Lake Kluane (Kloo-annie). Trees were growing more sparsely here, with some burnt over patches mostly being recovered by black spruce, with small half-acre patches of aspen. Here and there we saw more evidence of top soil, but we gradually climbed again and reached an altitude of 3,460 feet after a 14 mile dip. Just a little farther on I noticed the appearance of a gopher; and about the same time we passed into a rough, tree-filled valley, from the side of which we first sighted Lake Kluane.

Along about here, too, Mr. Abbott told us about the possibility of seeing the St. Elias range of mountains a little farther on. The day had been cloudy, but the rain had ceased and soon the sun made its first appearance, so that we had hopes of seeing these famous high mountains in the southwestern corner of Yukon which were clearly visible only on a clear day from a distance of 50 or 60 miles away. Through the St. Elias mountains runs the great Hubbard glacier in the southeasterly direction. Highest among all the peaks of this area is Mount Logan (19,850 feet), but later in the day when we did see some of these gaunt, snow-capped peaks from the western shore of Lake Kluane, the ones we probably saw were Mount Walsh (14,708 feet), Mount Lucania (17,150 feet), Mount Steel (15,439 feet), and Mount Wood (15,880 feet). They were a cold and forbidding group, even at that distance, and I had no great desire to view them at closer range.

We stopped here and there looking for new and interesting plants, for this was the season of the profuse northern wild flowers in bloom. When we found a new one, as we frequently did, Mr. Leslie would rattle off its scientific name, which I invariably had to have

translated into a language I could understand. A few among those found were a dwarf rose, tansy mustard, Indian turnip, yellow vetch, pale saxifrage, hairy vetch, one or more of the pentstemons and most important of all, a beautiful rich, red primrose found on the gravelly shore of the lake. Mr. Abbott marked the spot, intending to come back later in the season to collect some seed.

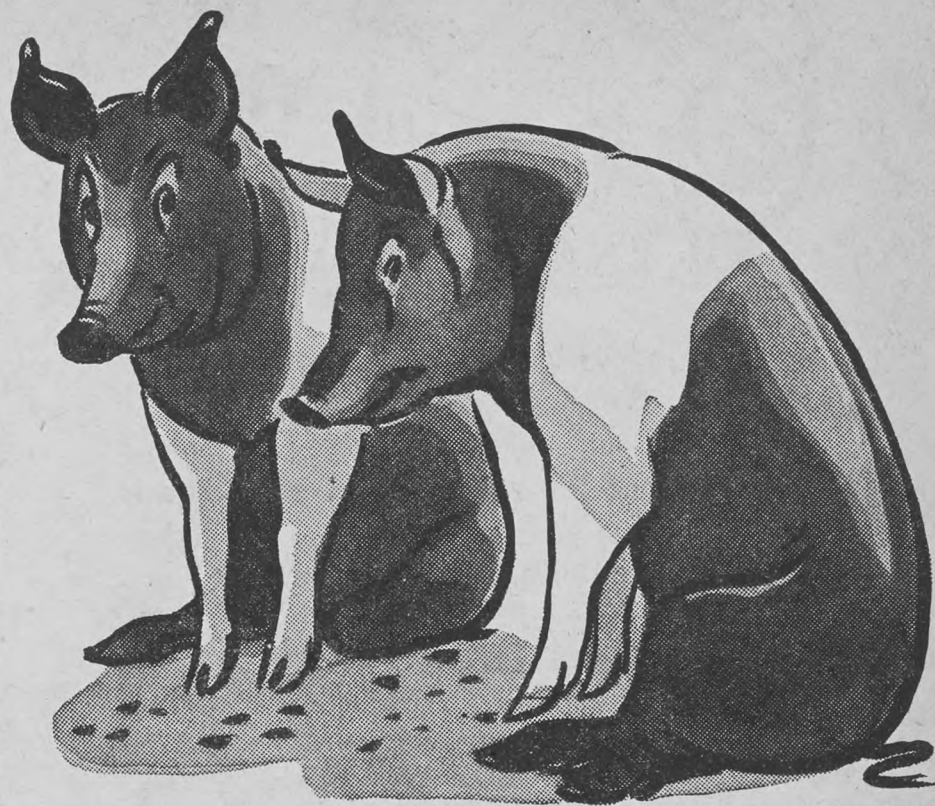
Rounding one corner of Lake Kluane, shortly before we camped for lunch, we crossed a wide mud flat, which was really the delta formed where Slim's River enters the lake. There was a long timber bridge spanning the mud flat. When we stopped near the shore of the lake, we had come 47 miles from the farm. Looking southward toward the northern slopes of the hills we had come over, we could see that the northern slopes were much better treed than the southern, and noted many spruce of a yellowish-green color.

Twenty miles farther on we reached Destruction Bay and a maintenance camp, at an altitude of 2,800 feet. We were getting nearer our destination and eventually, striking away from the Highway toward the extreme end of Lake Kluane, we reached the Jacquot Bros. trading post. This consisted of a collection of 15 to 20 small log buildings, including a larger one, said to be the oldest barn in the Yukon Territory, and built directly across a fast flowing creek. The advantage of this location will be apparent to any farmer's son who has had to clean out stables by the arm-strong method. Not far away from the post is a large expanse of first class grizzly bear country. These keep to the higher slopes of the mountains for the most part, and Jacquot Bros., in addition to operating the trading post, maintain 50 to 60 horses and act as guards to parties of big game hunters.

No crops are cultivated at the post, except that we saw a small patch of perhaps an acre of rye growing adjacent to the barn; and the cattle, consisting of seven head, pick up their living for the most part roaming among the trees and the grassy slopes nearby. They were rounded up for us by a spry young urchin who seemed to know where they were; and to our surprise we were confronted by a fairly good type of Short-horn bull in first-class condition, a mediocre Hereford cow with calf at foot, as well as a yearling heifer from her, while there was also a Holstein cow with calf at foot, and a yearling steer from her. As far as we could see, the rest of the livestock at the post consisted of six sled dogs not of uniform breeding. Most of them, we were given to understand, were part German police dog and part timber wolf. They were tethered individually at various points along the edge of the small rye field back of the barn, and as far as I was concerned there were no advances toward friendship. The cattle, incidentally, were quiet, and while we looked them over Mr. Jacquot fed them slices of dry bread, to which they seemed to be accustomed.

Leaving the post about four in the afternoon, we prepared for a leisurely and pleasant trip back to the Sub-station. Actually it took us about six hours, as I recall it, owing primarily to an exasperating leak which developed in one of the tires, and principally to the absolute refusal of the pump to develop more than about 22 pounds of pressure. The result was that we huffed and puffed in turn every five or ten miles, and eventually made it. This experience, incidentally, illustrates why private travel has not been permitted very freely on the Alaska Highway. There are no garages, filling stations or other facilities for helping travellers out of difficulties. When our trouble developed we were 40 miles away from home or any other source of help. Fortunately the Sub-station is located only three miles from a highway maintenance camp, so that it was possible to get the tire fixed there the next morning, without going all the way into Whitehorse, 103 miles away.

Another interesting experience we enjoyed while at the Sub-station, was a visit to Kathleen Lake. This was about 20 miles away, and reached by a road branching off from the highway at the point where the maintenance camp and the mounted police post are located.



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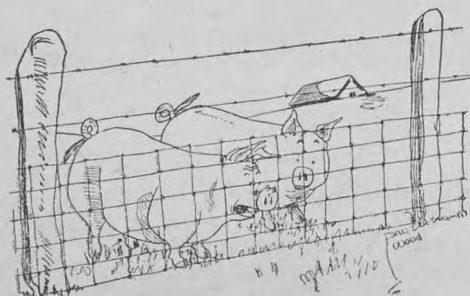
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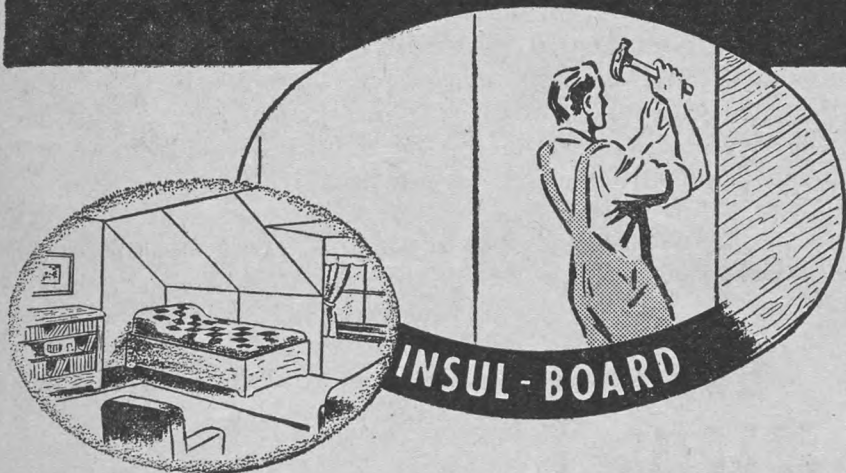
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RU-BER-OLD DIVISION

This road leads to Haine's Creek, and while narrower than the highway, provided a good gravel surface.

The day was July 13, and the weather fair, although distant clouds promised possible rain. We were surrounded by high hills and mountains, though at a considerable distance away. Creeks crossed by the road were generally fast flowing, and one of these, Quill Creek, was I believe, the fastest flowing creek I have ever seen. It rushed along over a rough, gravelly bed, carrying ice-cold water from the high hills around.

On the way we stopped frequently, as usual, looking at the wild flowers which were abundant and of wide variety. Some that I noted included buttercup, silverweed, American dragon head, lupins, dwarf phlox (white and pink), delphinium, two kinds of gentians, one with a purple stemmed flower and another mauve with green leaves, cornel, blueberries, cranberries, twin flower, Labrador tea, wintergreen, calendula, Arctic raspberry, baby's breath, and an unknown very stiff, tall, flowered stalk with a round, cup-like calyx, and large, 1½-inch petals which were twisted together to resemble a stocking cap.

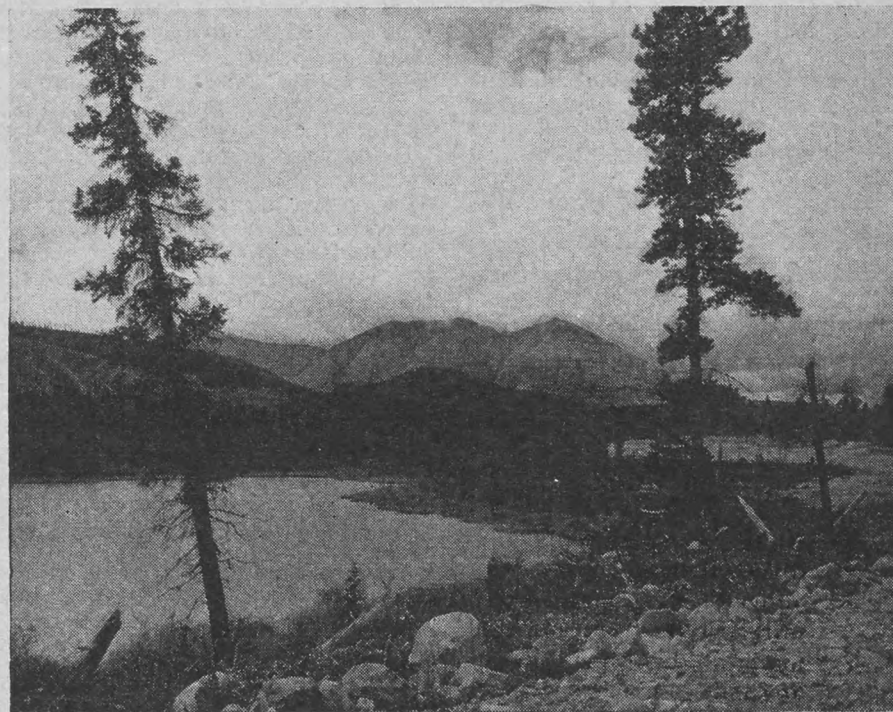
Kathleen Lake, as we approached it, seemed to be more or less triangular in shape, with two sides protected by high hills and mountains, and the road angling toward the base of the triangle. It is a beautiful little lake with its clear water shadowed in parts by the surrounding high hills and basking in the sunlight at its broader end. Its outlet is a fast flowing, crystal-clear river 75 to 100 feet wide near the lake, and called Kathleen River. It was this river which was one of the objects of our visit, because Mr. Leslie, mixing hope with anticipation, had brought two fishing rods; and since fishing is one of the few recreations of the area, Mr. Abbott had primed us with the probability of lake trout weighing as much as 23 pounds and an abundance of grayling, or blue trout. We had tasted both the fun and the reality of grayling one evening at Pine Creek, near the Sub-station. I frankly confess to an indifferent interest in fishing as sport and in fish as food, but this indifference and Mr. Abbott's matter-of-fact enjoyment of the sport were more than balanced by Mr. Leslie's boundless enthusiasm.

Apparently we found the fish in a very moody humor. Balancing ourselves precariously along the river's edge between the highway bridge and the place

where the river made a turn to the right, we proceeded to draw on the supply of grasshoppers which we had laboriously collected earlier in the morning on a sunny slope of rough land across from the Sub-station. Throwing our lines into the edge of the fastest moving water in the centre of the river, and allowing our baited hooks to drift toward the eddies at the river's edge, we cast and recast, baited and rebaited with admirable persistence, but unfortunately, with little result. Came time for lunch, which revived our—or my—spirits somewhat, and then in the afternoon, after what seemed to me an overabundant observance of the conventions of the sport, I wandered away to examine the deserted buildings of a maintenance camp near the bridge, and to stand on the bridge over the river. There, at one and the same time, I was able to enjoy in one direction the swirling river curving between well-treed banks and in the other direction the river seeming to flow between high peaks over which a thunderstorm was playing amidst dark clouds; while inwardly I both commiserated with and chuckled at the indomitable perseverance of Mr. Leslie.

There he stood, a lonely figure on the shore of the beautiful river known to be teeming with fish that simply would not bite. In the evening two men from the maintenance camp near the farm came down to fish for lake trout, with similar result. Hope surged again in Mr. Leslie's breast, but dusk fell and the entire party came away empty-handed except for two or three small graylings obtained during the afternoon. As if to pour salt in his wounded feelings, we later learned that two men from the camp came again the following evening and obtained five nice lake trout.

As we left Kathleen River that evening shortly after nine o'clock, the sun was already invisible. Many miles to the south of us, however, it was still lighting the side of a tall, snow-clad peak, which rose above the surrounding mountains. Where we were in the valley, the fast, loud-speaking waters of the river passed unendingly into the gloom of the overhanging banks. On the highway it was still light. Indeed, these were the days when in Yukon Territory it is still light enough at midnight to read outdoors, so that we drove the 20 miles homeward to the Sub-station at Pine Creek, through the soft and pleasant twilight of the north.



[R.C.A.F. Photo]

The Nameless Lake in the Yukon

It lies 'twixt the grand old mountains,

In a vale where caribou roam,
Where seagulls sport in the summer,
And chickadees call it their home.

A gem in a gorgeous setting,
A dream, when the shades of night fall,

A home for birds of the Northland,
Where the loon will laugh at your call.

It's yours and mine if we want it,
And it lacks in nothing but name,

This magical crystal mirror
In its colorful restful frame.

At times, it is framed with roses
All sparkling and shimmering with dew,

Which bursts from pearls into diamonds
When Winter, her frolics renew.

The pines have told of your coming,
The lake is now rippling with glee,
And nature is calling "Welcome"

From a branch of her tallest tree.

—SARAH DRURY TAYLOR,
Whitehorse, Yukon.



Canada's Evergreen Playground

...via Canadian Pacific

Where warm Pacific currents lap the shores of Canada's West Coast, nature has created an Evergreen Playground—for you!

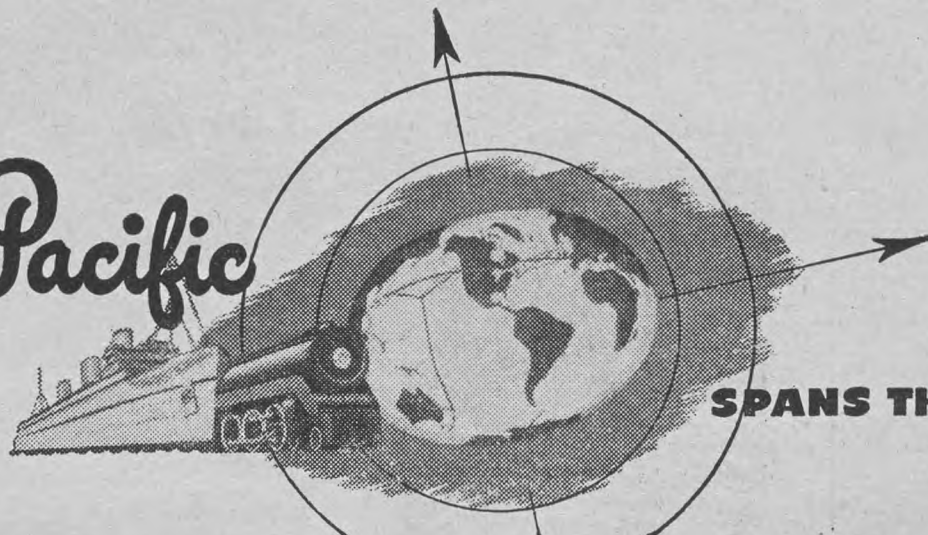
In the very heart of this garden spot—at beautiful Victoria — stands the ivy-clad

Empress Hotel, famous for gracious living and quiet, unhurried luxury.

Here summers are cool and refreshing . . . winters mild and balmy. There is no "closed season" on beautiful Vancouver Island — or the nearby mainland of British Columbia.

For information about vacations in any part of Canada consult any Canadian Pacific Railway agent.

Canadian Pacific



SPANS THE WORLD

Check fresh bog spavin

Keep horse at work

To check fresh bog spavin you must catch it at first signs of puffiness, before the hock bunch hardens.

Bog spavin appears as a soft swelling to front and inner side of hock joint. When first noticed, massage Absorbine on the puffy hock to stimulate local circulation. This increases blood flow in the area and reduces swelling. Rub in Absorbine twice daily until the swelling goes down.

Absorbine is not a "cure-all" but is most helpful if used as recommended. A stand-by for 50 years, Absorbine is used by many experienced horsemen and veterinarians. Especially helpful in checking windgall, curb, thoroughpin and similar congestive troubles and to help prevent them from becoming permanent, painful afflictions. Only \$2.50 for a long-lasting bottle. On sale at all druggists.

W. F. Young, Inc., Lyman House, Montreal

ABSORBINE

ATTENTION!

This ad is addressed to a man not over age 55 who is concerned about his future security and interested in getting a business of his own. He may be too old for heavy work. Perhaps his income is uncertain or not enough to meet present-day demands. He may be discouraged, but if he has good references and a car, there is a possibility of him qualifying for better than average earnings. He should forward full personal history to the advertiser, Box 180, The Country Guide, Winnipeg.

**You'll
SAVE
TIME and
MONEY with a
Fairbanks-Morse
HAMMER MILL**

• Fairbanks-Morse Hammer Mills grind grain or roughage fast, and with low power cost.

Because of their large breaker plates and large screen area, most of the grain is ground first time around.

Large-diameter cylinders give the necessary hammer-tip speed at only 2400 r.p.m. This permits using a larger pulley for greater efficiency.

One of three models will match your available power perfectly, and combine lowest power consumption with greatest grinding capacity.

THE CANADIAN FAIRBANKS-MORSE COMPANY LIMITED

WINNIPEG • REGINA • CALGARY
EDMONTON • VANCOUVER

If the local F-M dealer cannot supply you, mark the items in which you are interested and mail to the nearest F-M branch.

Water Systems.....	<input type="checkbox"/>	Windmills.....	<input type="checkbox"/>
Lighting Plants.....	<input type="checkbox"/>	Wind Charger..	<input type="checkbox"/>
"Z" Engines.....	<input type="checkbox"/>	Pump Jack.....	<input type="checkbox"/>
Hammer Mills.....	<input type="checkbox"/>	Electric Fence..	<input type="checkbox"/>
Grain Grinders.....	<input type="checkbox"/>	Hand Pumps.....	<input type="checkbox"/>
Water Softeners.....	<input type="checkbox"/>	Wash Machines	<input type="checkbox"/>
Scales.....	<input type="checkbox"/>		
Oil Burning Space Heaters..	<input type="checkbox"/>		
Oil Burning Water Heaters..	<input type="checkbox"/>		

Name.....

Address..... CG-1

Ret, Wigwam, Comb, Break and Scutch

The Flax Mill at Portage prepares the raw material for the weavers of fine linen

By R. D. COLQUETTE

THE flax mill at Portage la Prairie is in full operation. From Manitoba grown flax they are extracting those long fibres from which fine linen is made and the tow with which furniture is restfully upholstered. It is not a complicated process, like making sugar or expressing vegetable oils. In fact machinery is simply doing what has, in past ages, been done by hand with simple tools.

In the background of the ample space around the plant are familiar looking stacks of flax sheaves. The first step in the process is retting, from retten, an old English word meaning to soak. Retting is nothing more than making the woody parts of the flax plant brittle so that they will break up easily into short pieces that can be more readily separated from the fibre. There are two methods of retting. Dew retting is simply leaving the flax exposed in the field to be weathered. A flax crop that has lain out all winter should be pretty thoroughly dew retted. Water retting, the method I watched, is soaking the sheaves in tanks of water at controlled temperatures.

For water retting big concrete tanks are built. The temperature of the water is controlled by steam pipes from a boiler in the mill. The sheaves are stood on end in the tanks, two or three courses deep, and firmly tramped. Then the water is turned in until the flax is completely covered. Planks, weighted with timbers, placed on top, keep the flax from floating.

As this is a pilot, or experimental mill, different temperatures have been tried. At 76 degrees Fahr. it takes 79 hours to complete the retting. At 85 degrees Fahr. it is complete in 58 hours. Tests are under way to determine the period which will give the best product. A certain amount of fermentation takes place in the tanks. The odor is strong and somewhat reminiscent of silage.

After retting, the water is pumped off. But the sheaves are wringing wet and they have to be dried. This step is called wigwamming. The bands are cut and the loose sheaf is set up in the form of a wigwam or teepee as is shown in the top scene in the illustration. Incidentally the man who is performing the operation is Denny Deltour, foreman of the flax division at the Central Experimental Farm, Ottawa, who has been with the flax division for 30 years, which takes us away back to Dr. Saunders' time. And before that he had experience with flax in his native Belgium.

When the flax has been air dried

down to 10 per cent or so it is again bound up in sheaves, to keep the stalks straight and in order, and to make the stuff easier to handle. A special binder has been constructed for the purpose. It is a platform, mounted on skids and drawn by a tractor. The knoter of a binder is attached and it is driven by a small gasoline engine. The wigwams are gathered and fed through it, emerging as bound sheaves for the second time. The sheaves are then stored in the barn part of the mill to keep them dry.

Water retted flax has been deseeded before stacking by a special machine in which drums break the bolls and remove the seed without disturbing the straw. In the mill the first machine cleans the straw. The flax is fed sideways into it. It is held by the middle, between two belts. On each side are comb-like devices which revolve crank fashion. On one side the comb takes off the remaining seed bolts or parts of them, while on the other side a comb takes the dirt off the roots. For this flax has not been harvested in the ordinary way but with a harvester which pulls it up by the roots. Weavers don't want fibres that have been cut. They want them the full length of the flax plant with their natural tapered ends. Cut flax can, however, be used in making tow.

The flax then passes through the breaker. The principle here is a pair of interlocking corrugated cylinders, which break up the woody part in short pieces so that it can be separated from the fibre without injuring it in any way.

The next process is scutching. In this step the woody parts, or shives, as they are called, are separated from the fibre. Dull knives on rollers scrape off the shives, together with short fibres. The line fibre, as it is called, comes off here. This is the first class, long and unbroken fibre, up to two or three feet long, which is baled and shipped to the weavers or exported to England. The price controller allows it to fetch a present price of 55 cents a pound.

There remain the shives and short fibres or tow, previously mentioned. These go into the tow shaker which shakes out the loose shives. The remaining tow is then passed through a scutcher which cleans it of remaining woody material. This is also used by spinners and weavers for making cross threads in the weaving process.

"But what?" I asked, "of ordinary flax straw? Is there any use you can put that too?"

The answer was that flax straw can be run through a simple "donkey"

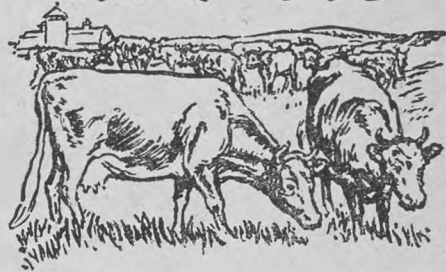
Denny Deltour setting up a wigwam.

Gathering and binding the wigwam.

E. H. Mackey examines some fibre.

A bundle of the finished product.

ALL-NOT JUST ONE SHY BREEDER IN ONE HERD SETTLED WITH REX OIL



VioBin (Canada) Limited,
Montreal, P.Q.

Dear Sirs:—

In January 1945, you sent us two gallons of Rex Wheat Germ Oil to use on our herd of Holstein Cattle as we have been having a lot of trouble getting cows in calf and had three abortions last year.

I am very glad to be able to write and tell you how pleased we are with Rex Wheat Germ Oil. We gave it to the cows and bull regularly, AND EVERY ONE OF THE COWS HAS EITHER CALVED, OR WILL, WITHIN THE NEXT THREE MONTHS. The first cow to calf had twin heifers (her first twins in six years). All the calves have been fine, strong animals. We will continue to use Rex Wheat Germ Oil as we certainly have less breeding troubles when we do.

Yours truly,
T. BINKS.
Per A.E.

MAKE SURE ALL THE COWS YOU BREED THIS MONTH SETTLE ON THE FIRST SERVICE —

Cows that will not settle promptly when serviced upset your calving schedule — lessen your milk supply — and cost you money. So end breeding failures on your ranch now! Rex Oil settles shy breeders, activates inactive bulls, increases fertility, corrects misses and ends other non-organic breeding troubles because it contains factors which are an aid to reproduction. Every unit in your herd can be a profitable producer if you add Rex Oil to regular rations. Remember, Rex Oil is a stable, guaranteed potent source of vitamin E. INSIST ON REX OIL.

Rex Oil contains biochemical factors not found in other wheat germ oils. GUARANTEED: Your money back if not entirely satisfied.

Rex Oil is economical — 4 oz. \$1.25; 20 oz. just \$5.00. Order a supply today from feed dealer, druggist or direct.



R-80

VIOBIN (CANADA) LIMITED

N.D.G. Postal Station — Box 50, MONTREAL, Que.

SHOW & AUCTION SALE

FEEDER CATTLE AND CALVES — Carlots and Groups of 10 and 5 head—2-year-olds, Yearlings and Calves.

FEEDER and BREEDING LAMBS and EWES — Groups, minimum 15 head; Feeder Lambs; Shearlings, 2 to 4 Shears.

UNION STOCK YARDS, SASKATOON, SASK. October 3rd and 4th, 1946.

For full information and Prize List, write A. E. NEWTON, Secretary-Manager SASKATOON FEEDER SHOW AND SALE ASSOCIATION

Union Stock Yards Saskatoon, Sask. "Where Breeder and Feeder Meet"

ONAN LIGHT PLANTS

New 1,500-watt 32-volt models now available automatically keep battery fully charged. For farm use \$350.75. All A.C. models available, also a few 2½ h.p. engines—some 32-volt motors, a few water systems and concrete mixers also in stock.

Power & Mine Supply Co. Limited

WINNIPEG — — — — — Manitoba

"MISTER!
THIS PAINT IS
LIQUID
METAL!"



• "It's got 'em all stopped when it comes to shutting out dampness and decay. That's because "Alpaste" Aluminum Paint spreads a *metallic shield* on the surface — a weather-tight shield of millions of microscopical aluminum flakes that 'leaf' together, forming a firm barrier against the elements. *Property insurance*—that's what I get when I paint my buildings with Alpaste Aluminum Paint. And it's so easy to work with... a grand paint... a sound investment in building security for every farmer."

Ask your local paint dealer.

Alpaste is a product of
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MADE WITH
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TEXROPE and GOODYEAR BELTS
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BP
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**ROOF COATINGS
CEMENTS • PAINTS**

B.P. Liquid Fibre Coating

For re-surfacing badly-worn asphalt prepared roofings; stopping small leaks, and for coating metal roofs.

B.P. Utilite Paint

For protecting wood, and for rust-proofing metal surfaces.

B.P. Plastic Cement

For caulking (masonry, metal or wood), and for patching roofs, flashings, etc.

B.P. Liquid Roofing Cement

For waterproofing roofs; stopping small leaks, and for painting over worn asphalt roll roofings.

breaker, as they call it and the product shipped to furniture factories for upholstery. A car load of it had been shipped to Edmonton the previous week. The presence of the shives with the fibre makes a desirable combination for this purpose.

But there is another use for ordinary flax straw. If it is put through a scutcher and the woody part removed, the fibres can be used for making the finest kinds of paper, such as cigarette paper and high quality bond paper such as is used for writing love letters, and bank notes, those useful little documents which are so hard to come by and so hard to retain.

This is a pilot mill. It is built like a commercial plant, and the processes are precisely the same but it is also used for experimental purposes. A laboratory was being installed with high-class equipment. It is under the direction of Dr. J. C. Woodward, plant chemist of the Dominion Department of Agriculture. One of the particularly ingenious instruments is for testing the tensile strength of fibre. A fibre is placed in it, held at both ends. A weight running on small wheels runs slowly down a track placed at a slight incline. The farther the weight goes down the incline, the greater the tension that is put on the fibre. When the fibre breaks, the track drops on to a break which immediately brings the travelling weight to a stand still. Then the breaking strength of the fibre is read directly off a scale.

The officer in charge is E. M. Mackey of the Dominion Experimental Farms System, which is financing the project. He superintended the construction of the mill. He explained that it will handle any fibre crop and he was never convinced that hemp growing should have been prohibited. In Wisconsin it is grown under police supervision, which prevents the seed from getting into the hands of those who would use it in the preparation of narcotics.

Lady and the Missus

By K. S. BRIGHTLY

DURING a summer spent in the Rocky Mountains, my attention was drawn to the astounding friendship of two mares, the Missus and Lady. Both mares belonged to a string of pack ponies used on the difficult mountain trails. The two ponies were never far apart. Dwarfed and grotesque under their heavy packs, the Missus, with longer experience, always led, Lady following unerringly in the tracks of the Missus. "Share and share alike," seemed to be their maxim. During a night in the open, the clumsy, hobbled movements of Lady could be heard as she rustled the extra mouthful of food; one knew that the Missus was not far away.

Both mares were to foal that summer, and were turned out to graze in a pasture deep in a river valley. Time came when the mares should be brought to the stables. One of the guides went in search of them. From a high vantage point he looked down upon this amazing and gripping drama—Lady was about to foal. At a distance of some twenty feet and circling about her were coyotes, heads thrust forward, waiting for the foal to be born. But true to form, the Missus was there, right on the job, head tossing angrily, snorting, stamping, she would wheel round Lady and if a snarling coyote came a little too close, out would fly her hind hoofs in a vicious kick.

Through a stroke of great good luck the guide was able to arrange suitable transportation for the Missus, Lady, and her precious infant, getting them without mishap to the home corral.

In the cool summer evenings of the Rocky Mountains, the Missus and Lady would swish their tails contentedly, rub noses and talk horse talk together, each being nuzzled by a wobbly long-legged colt.



**With every egg she lays,
she's
LOSING
SALT!**

LIKE ALL
FARM STOCK,
POULTRY
REQUIRE A
DAILY SALT
RATION



Every egg laid is partially salted from the hen's body. Without salt hens lay smaller and fewer eggs. In growing flocks, lack of salt retards maturing, increases susceptibility to disease. If you mix your own feed, see that 1-lb. "Windsor" Iodized Stock Salt goes in every 100 lbs. of mash.

**WINDSOR IODIZED SALT BLOCKS
IODIZED STOCK SALT**

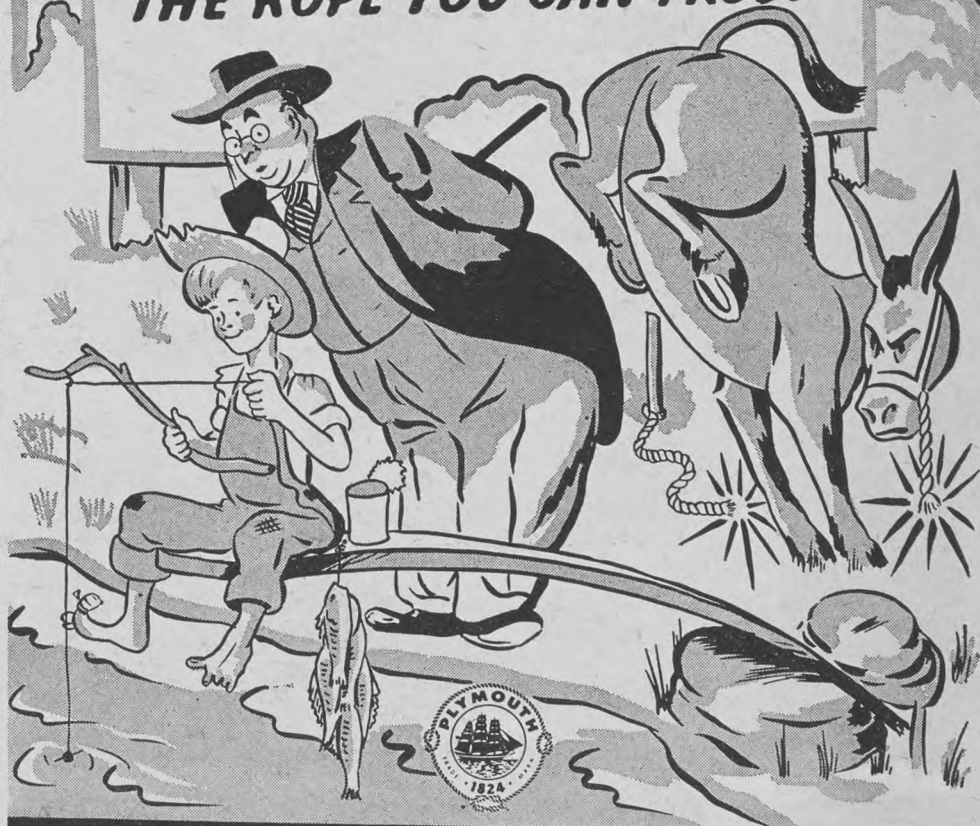


Products of CANADIAN INDUSTRIES LIMITED

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THE ROPE YOU CAN TRUST



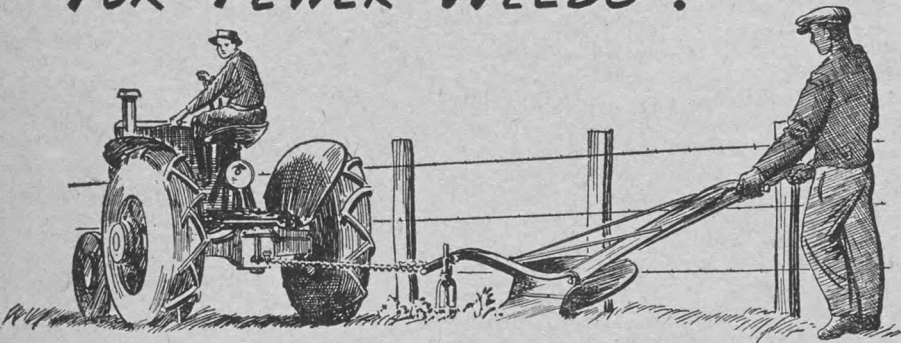
Because - It's Engineered for your job

IDEAS

from a Neighbor's Farm

Safeway's Farm Reporter keeps tab on how farmers make work easier, cut operating costs, improve crop quality. Safeway reports (not necessarily endorses) his findings because we Safeway people know that exchanging good ideas helps everybody, including us. After all, more than a third of our customers are farm folks.

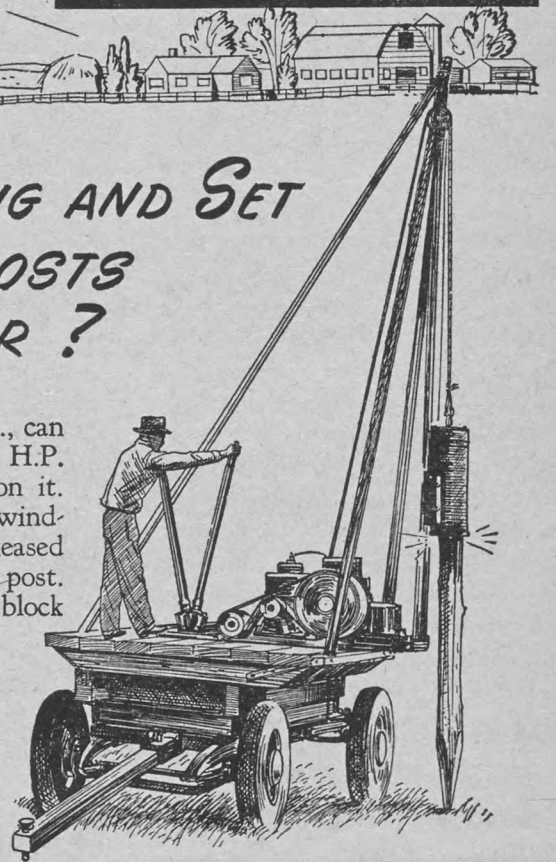
FOR FEWER WEEDS!



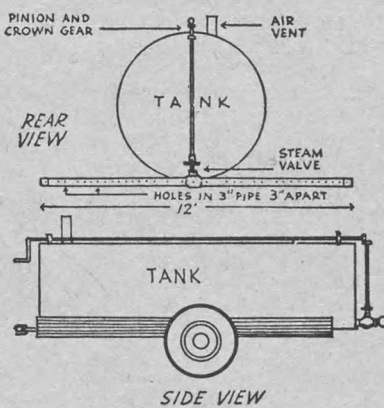
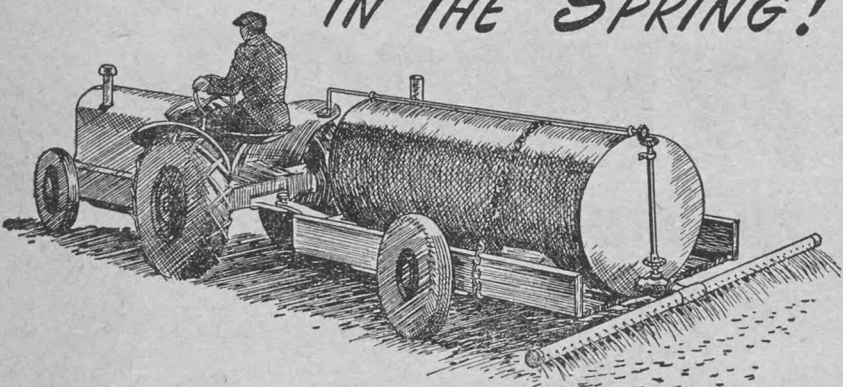
To Milton Kelly of New Westminster, B.C., goes credit for a simple but very practical way of keeping down weeds near fence posts and ditches that in ordinary plowing go unmolested. Hitching a chain to the drawbar of his tractor and the offset on a hand plow, he is able to swing the plow close to the fence or ditch whether using horses or a tractor. "Can't have my farming ground contaminated with weeds," he says, "and it's easy to get at them this way."

CAN YOU DIG AND SET 12 FENCE POSTS IN AN HOUR?

Dodd Brothers of Olds, Alta., can with this trailer and a $1\frac{1}{2}$ - $2\frac{1}{2}$ H.P. stationary engine mounted on it. The engine drives the drum, winding the weight up; clutch is released—the weight drops on the post. Some tips: (1) an old engine block makes a good weight; (2) weight must be channelled to prevent sway; (3) sharpen the post before driving and set it firmly before this "junior piledriver" goes to work on it.

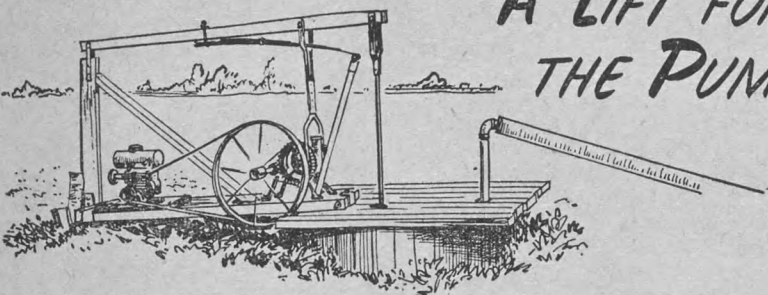


PUTTING WINTER'S LIQUID FERTILIZER TO WORK IN THE SPRING!



A 200-gal. water tank is the heart of this liquid fertilizer built by Dawson Brothers of Matsqui, B.C. With the fertilizer, C. H. Dawson says, a field where seven cows grazed now cares for fourteen. The fertilizer operates from a 3-inch pipe at the back of the tank connecting to a 3-inch tee. The tee takes a 3-inch pipe 6 feet in length on each side with holes drilled 3 inches apart. The flow is controlled by an iron rod across the top of the tank, handle at one end, pinion and crown gear at the other. The crown gear opens and closes a valve on the 3-inch outlet below. Winter's fertilizer is stored in a concrete reservoir, connected underground from the barn. Complete cost, "about \$160."

A LIFT FOR THE PUMP...



...THAT PUMPS THE WATER!

This spring equalizer for pump jacks was devised by R. A. Van Slyke of Red Deer, Alberta. The leaf spring (from an old car) on this pump is used to store power on the downstroke of the pump rod to help lift the water on the upstroke. The spring is heavy enough so that half the power required for the upstroke is stored on the downstroke. The principle is that of a counterbalance. Power is a small gasoline motor with efficiency considerably raised by the spring equalizer mechanism.

A GOOD SAFEWAY IDEA IS... CUSTOMER'S CHOICE

In old-fashioned food stores customers waited for their orders to be "made up" by clerks. They weren't allowed to go "behind the counter," and had to take pretty much what was handed out. Prices, of course, were marked up to cover the cost of extra store help required.



Safeway's modern idea of self-service in grocery stores saves money for customers, because less handling is required. What's more, each customer can shop around freely, examine all merchandise before purchase, compare brands, and choose exactly the kind and amount desired. Since Safeway's plan makes food buying easier, people naturally buy more . . . thus increasing demand for all the good foods farmers send to market.

- Safeway buys direct, sells direct, to cut "in-between" costs.
- Safeway buys regularly, offering producers a steady market; when purchasing from farmers Safeway accepts no brokerage either directly or indirectly.
- Safeway pays going prices or better, never offers a price lower than producer quotes.
- Safeway stands ready to help move surpluses.
- Safeway sells at lower prices, made possible by direct, less costly distribution . . . so consumers can afford to increase their consumption.

New Canadian Wheat Policy Analyzed

A page of Monthly Commentary furnished by United Grain Growers Ltd.

Both before and after the British Wheat Agreement was signed by the Government of Canada, and after the Government announced its complete wheat policy for the next four years, these developments have been the subject of controversy. Now that they are established facts, now that Canada is committed to the British contract, and now that wheat producers are guaranteed a minimum return over a period of years, it is not important either to praise or blame these developments. Either praise or blame are inevitably based upon forecasts or guesses as to the course of events over the next few years and, in particular, estimates as to what the course of wheat prices outside of Canada may be as well as the supply of wheat and the demand for it over a period of years. Time alone will tell whether, in the long run, wheat producers are left better or worse off because the British contract was made and whether, in addition they benefit from the price guarantee given by the Government.

What does become important is to understand just what has been done, what are the different features of the wheat policy, and be able to watch how these develop over the next few years. Policies to be followed in later years will depend, not on current controversy and not on judgments now hastily formed. They will depend on the results of experience and careful judgment based on such experience.

The program for the next four years must be regarded as both temporary and experimental. It is bound to be temporary because, to a large extent, it is based on the very special circumstances which follow the war, and due to the present world food emergency. Some things either suitable or practicable now would almost certainly be found to be unsuitable and impracticable once such conditions have passed. It is experimental because when a new set of conditions later has to be faced it will be necessary to draw upon experience gained during this four-year period in order to decide which features of the present policy will be carried forward. Indeed, such decisions may have to be made, not at the end of four years but perhaps earlier in the light of changing conditions. There are several distinct aspects of the present policy, not necessarily related, and they may be examined separately:

The Price Guarantee

Producers are guaranteed a minimum price of \$1.35, basis No. 1 Northern in store at lakehead or Pacific Coast Terminals for the crop produced in 1946, 1947, 1948, and 1949. For the current year that applies to all the wheat they can deliver, and such quotas as apply from time to time to regulate the use of country elevator space, will not be applied to limit the total quantity of wheat deliverable during the crop year 1946-1947. For later years there may be delivery restrictions. The Government has said that for such years over-all quotas will not be less than 14 bushels per authorized acre. Authorized acreage may vary and the extent of the guarantee is indefinite. This replaces a guarantee of a basis of \$1.00 per bushel for the same period which was announced when the Government first put an export price ceiling of \$1.55 on wheat.

The minimum price of \$1.35 per bushel will constitute the initial payment by the Wheat Board. More will be paid later if, after the 1949-50 crop is sold, a surplus remains in the hands of the Wheat Board. Results for five crops from that of 1945 to that of 1949, inclusive, will be pooled, and any final payment will be made uniformly for the five years. To bring the initial payment for 1945-46, on which farmers have already been paid on the basis of \$1.25, another 10 cents per bushel will be paid promptly.

Obviously such a guarantee does not mean much for 1945-46, as the proceeds from the current crop will almost certainly yield far in excess of that sum. What value it may have is related to the three following crops. Obviously,

also, the guarantee imposes small risk of loss on the Government, and producers themselves will carry that risk. The surplus withheld from the crop of 1945-46 may amount to from 10 to 25 million dollars. It can only be arrived at arbitrarily in arranging a cut-off between sales credited to that crop year and earlier crop years. The surplus from last year's crop and the current crop may easily amount to \$100,000,000, to be withheld until 1951, and to be distributed only after meeting any losses which may be incurred on later crops. Almost inevitably that surplus providing a guarantee fund, will be largely added to by marketing of the 1947 crop. It has been pointed out that thus to withhold part of the proceeds of the 1945-46 crop constitutes a breach of the understanding which prevailed when farmers delivered their grain. The answer made by the Government is that had that not been done the guarantee price basis for later years would have been lower than \$1.35.

Five Year Pooling of Returns

This pooling of returns over a period of five years equalizes producers' proceeds for that period. It serves another purpose, and has enabled the price ceiling to be removed from wheat exported to other countries than Great Britain. That price ceiling, as has been pointed out several times on this page, was not put on only for the benefit of Canada's customers; it was part of the price control policy of this country. Inflationary effects were evidently feared if farmers should now get very much more for their wheat than they had been getting, even although it would have been easily possible to sell wheat for more than the price ceiling. Under the new policy wheat is now sold at more than \$2.00 per bushel to countries other than Great Britain. Quite evidently it is thought that there can be no inflationary effects from such sales provided that the extra money does not now get into the hands of the farmers, and can only reach them after four or five years.

This system involves various difficulties and problems. When a farmer dies holding participation certificates for one or two years, the value of his estate will remain in doubt for some considerable time. If a farmer retires, after the current crop year, he will have made a large contribution to the guarantee fund. He will not receive compensation if that fund is drawn on to meet the losses of later years. Such a plan is hardly likely to be a permanent feature of Canadian wheat policy.

The British Contract

The most important single feature of the new policy lies in the contract made with Great Britain for the sale of 600,000,000 bushels of wheat over a four-years period. Canada has agreed to sell, and Great Britain to buy, 160,000,000 bushels annually for two years, and 140,000,000 bushels annually for the next two years. For the first two years the price is definitely set at \$1.55 per bushel. For the subsequent two years the prices are yet to be negotiated, but the minimum is to be \$1.25 per bushel for 1948-49 and \$1.00 per bushel for 1949-50. When those later prices are negotiated Britain agrees to take into consideration the extent to which the \$1.55 for the first two years has been below the "world price," which phrase is used in the agreement. That clause may be difficult to interpret when the time comes to interpret it. Apparently it means that Great Britain, while not now prepared to pay more than \$1.55 per bushel for wheat, will be prepared in the future to give some compensation from the current advantages now derived from such a price.

Many critics argue that Canada should not set much store upon this British guarantee of future prices. Their argument is not that should the contract later be onerous Great Britain might seek to repudiate; it is rather that it would be bad business on the part of Canada to hold Great Britain to such a bargain should lower levels for wheat actually prevail in subsequent years.

Agreed prices are able to apply whether wheat is delivered to agents of Great Britain at the Pacific Coast, at Churchill or at lakehead terminals at Fort William and Port Arthur. The inclusion of Churchill is interesting, and shipments of wheat long in store at that port have lately been made.

Provision is made that carrying and forwarding charges, as may be agreed upon, will be assumed by Great Britain. This means that the cost of storing wheat in western elevators will, under the contract, not rest upon the Canadian farmer but will rest upon the buyer. That really is a normal state of affairs in connection with storage charges, a fact which has frequently been pointed out both on this page and elsewhere by the United Grain Growers Limited.

One of the most discussed clauses in the agreement is that the United Kingdom Government may sell or dispose of the wheat and flour purchased thereunder in whatever manner the United Kingdom Government may deem expedient, both in regard to destination and price. Some people have seen in this clause threatened competition from the British milling industry in flour markets in Europe and elsewhere with milling industries of both Canada and the United States. Fears in that respect are based on the fact that the quantities specified are large, much more than peacetime imports of Canadian wheat and flour by the United Kingdom. That country usually requires about 200,000,000 million bushels annually of imported wheat, of which about 100,000,000 bushels might be expected to come from Canada. Probably nothing connected with this transaction is likely to be watched more closely than the procedure actually followed in this connection by Great Britain. The large quantities, which the United Kingdom is obtaining from Canada, may conceivably be used to increase food supplies in Great Britain, to decrease demands upon British farmers to grow wheat, or to decrease dependence of Great Britain on wheat from Argentina and other countries. They might be used to make a commercial profit through re-sale, or what is perhaps more likely, to increase British political prestige in certain countries through an ability to supply food.

The final clause of the agreement makes it subject to modification if required to make it conform to any agreements or arrangements hereafter entered into, to which both countries are parties. Quite clearly, it could be suspended if a general international wheat agreement should be made. At the present moment various countries, including not only the United Kingdom and Canada but also the United States, Argentina and a number of other countries, are endeavouring to frame such a general agreement. Conceivably, also, the General International Trade Conference, shortly to be held, might lay down principles which would make it necessary to terminate the contract.

The British wheat contract has frequently been denounced as a bilateral arrangement. Of course any definite sales contract must be bilateral, with the seller on one side and the buyer on the other. What is meant is that there is danger in such inter-governmental contracts which appear to shut other countries out of benefits of trade. The growth of such arrangements might make it difficult to re-establish world trade generally on the multilateral basis required to make it successful, and might foster economic nationalism and also attempts at direct balancing of imports and exports between different countries.

Sales to Other Countries

The Government has instructed the Canadian Wheat Board to sell wheat for export to non-contract countries at prices roughly corresponding to those charged by the United States. At the first of August a price of \$2.05 was announced for wheat to be milled in Canada for export to non-contract countries. Later, it is supposed, sales of unmilled wheat will be authorized, and the price will probably be somewhat higher than the price of wheat to be

milled. A reduction from the American price basis has to be made for wheat to be milled in Canada, because the by-products of such milling have to be sold in Canada at ceiling prices much lower than the American miller gets for his bran and shorts. This export price basis is subject to daily fluctuations, presumably in accordance with those which may take place on the Chicago market.

Whether other countries will seek, or will be allowed to make contracts corresponding with that made with Great Britain is still uncertain. Just now, when wheat is in great demand, it is possible that the two-price system for exports can be carried on without friction, because importing countries are more concerned about getting wheat than they are about the price to be paid. It is easy, however, to predict difficulties in carrying on any such system for a long period, and especially after competition from other wheat-producing countries begins to be a factor in world

Turn to page 41

Mr. Law's Statement

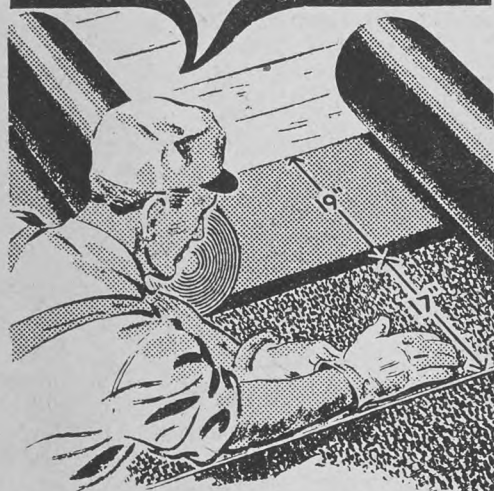
Mr. R. S. Law, President of United Grain Growers Limited, issued a statement at Calgary on August 2, in which, after pointing out how producers carry the risk of the guarantee, he said:

"The selling plan to be pursued over the next four years represents an extremely interesting experiment. Experience gained therefrom should provide some guide for policies for later years. Two opposite and contradictory policies are to be conducted at the same time by the government through the Canadian Wheat Board. Approximately half of the export surplus from four successive crops is covered by the contract signed by Great Britain. With respect to the other half, the Wheat Board is now charged with the duty of selling it to best possible advantage on the basis prevailing for export wheat in the United States, largely determined on the Chicago market. If producers ultimately receive much more on their participation certificates, it will probably come mainly from such other wheat. If, as suggested by the Minister, contracts similar to the British contract may be made with other countries, then to that extent the chances of further payments from the pool will be lessened. This in itself might not prove fatal to the plan in the minds of Western farmers, providing there is no further serious increase in production costs.

"The Wheat Board has been put into a difficult position. It will not be easy for it to follow price levels established in another country. If after a year the present emergent demand for wheat slackens off it might be hard to exact from some countries a higher price than is paid by Great Britain. Again the Wheat Board must maintain a third level of prices for wheat sold in Canada. Some such difficulties, are inherent in the operation of a government selling monopoly, which necessarily becomes an instrument of government policies.

"It should not be concluded that this obviously temporary and experimental program provides any permanent system on which Western farmers can rely for long term security. Prosperity of wheat producers will, in the future as in the past, depend largely upon Canada's success in marketing wheat in many different countries, and upon prices determined by conditions largely outside of Canada. No single contract, and no system of pooling returns over a period of years, can make up for that fact. We should be prepared to watch carefully how the experiment works out and to ascertain under which of two contrasting selling policies to be followed, more satisfactory results actually accrue. Both those who believe in open markets and those who believe in a closed system will have a chance to see their theories tested. Before the end of the four-year period we shall better be able to judge whether inter-governmental wheat contracts can be satisfactory and whether it will be advisable to continue monopolistic wheat marketing."

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IT'S LAPS AHEAD
of other ROOFINGS"



SEE how this "Storm King" Roofing laps into place . . . not just a few inches of lap but a full 19" lap over the roll below. This means a **DOUBLE THICKNESS** of roofing over the entire surface and triple thickness along the edges.

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- ✓ Completely concealed nailing . . . no trouble from nails rusting or pulling loose.
- ✓ All laps cemented down — no buckling or open laps to catch wind, rain and snow.
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NEIGHBORLY NEWS

Contributed by the Elevator Agents of
UNITED GRAIN GROWERS LIMITED

School District's 50th Anniversary

The Fairview District's 50th Anniversary celebration was a real gala event, "the little red schoolhouse" being the meeting ground of many old scholars of former years as well as about 200 citizens of all ages. Carberry and the surrounding districts were well represented.

At the birthday tea Mrs. Archie McLaren, oldest resident in the district, cut the first piece of the four-tier birthday cake.

Following the tea an address of welcome was given by Arthur Oliver, present chairman and son of the first chairman of the Fairview School District. Jack Brown, now a teacher at Winnipeg Normal school brought greetings from the department of education. The award for "earliest pupil present" was won by George Oliver (1882). The "earliest teacher present" was Dr. Lyall, of Winnipeg (1895).

Many letters were received from former pupils and entertainment provided by the children of the present school and their well-wishes added to a most enjoyable occasion.—Fairview, Man.

Fisherman's Paradise

Jackfish Lake is kept very busy this year as the "fisherman's paradise." Fishermen from Edmonton and their families come out to bask in the sun, as well as to enjoy their favorite sport of fishing.

Both beaches operated by Conn Nicoll and Charlie Edwards are kept on the run. The boat shortage is showing up on Sundays, and practically daily.—Carvel, Alta.

A Community Improvement

J. P. Gerlinger, general merchant and farmer of the district, is being commended for the all-out effort he has made towards the completion of his new theatre, which is regarded as a very good improvement to the district. G. P. Wiebe, a well-known local farmer, is also nearing completion of his new modern farm home which will be an asset to the district.—Lymburn, Alta.

New Service Centre

Louis Silverthorn, of Perryvale, is building a new garage here which is being spoken of as a "service centre" for this district and community.—Perryvale, Alta.

Veteran Grain Buyer Retires

Completing over 31 years of grain buying for United Grain Growers Limited, Frank Blair, popular agent for the farmers' company at Hanna, was recently retired on pension. Born in Angus, Ontario, Mr. Blair came West as a young man to Saskatchewan. He later joined the U.G.G. in 1915. After a short time at Beiseker, Mr. Blair was transferred to Hanna, where he served continuously until his recent retirement. His lengthy service constitutes a record among grain buyer employees of the Company.

Mr. Blair's family are well known in the Hanna district. Three sons served with distinction in the armed services: Jim was officer commanding the 4th Canadian Field Engineers and served in Sicily and Italy. Lloyd won the Military Medal for conspicuous gallantry with the Loyal Edmonton Regiment. He is still overseas. George served through the Pacific campaign with the American forces and visited Hanna at the time of his release early this year.

Thorpe Smith succeeds Mr. Blair as U.G.G. agent at Hanna. Formerly of Dalroy, Mr. Smith has had an extensive experience in the grain business. He served overseas for over five years with the 3rd Field Regiment of Calgary.—Hanna, Alta.

Coal Mining Operation

The Pinto Creek Coal Company have gone into operation early this year in anticipation of a coal shortage this coming winter. New modern machinery now being installed should make considerable more coal available.—Wembley, Alta.

Enjoyable Sports Event

Rycroft Sports were an outstanding success this year. Two days of fast ball games and faster horses kept everyone in top spirits all the way through the day and good picture shows followed by dancing in the evening finished the sports event off perfectly.—Rycroft, Alta.

Old Timers Celebrate

The Old Timers' Picnic at Lake Saskatoon was a huge success this year, being attended by old timers from as far away as Vancouver.

Swimming, boating and races were the order of the day, backed by plenty to eat at the various booths operated by the ladies' organizations from Wembley. This annual picnic is looked forward to and attended by hundreds of people from all parts of the country.—Grande Prairie, Alta.

Swine Field Day Attracts Crowd

A good crowd gathered at the farm of Chris Thompson, Three Creeks, to attend a swine field day conducted by L. Gareau, district agriculturist of Falher, and J. A. Charnetski, swine and sheep promoter of the department of agriculture.

Interesting addresses were given by these men on swine problems and a general discussion followed.

The main feature of the day was the hog judging contest in which first and second place were won by two eleven-year-old girls, Helen Sydoruk and Inger Thompson. Third place went to John Osinchuck.—Grimshaw, Alta.

Successful Old Timers' Gathering

An estimated crowd of more than 4,000 attended the Annual Waterhole Old Timers' Sports Day.

A keenly contested baseball tournament consisting of four teams, one from Fairview, Berwyn, Sexsmith and La Glace, proved a real attraction, the final game being won by Fairview over Berwyn. The other part of the program consisted of chariot races, pony race, and a "Model T" race, which gave great pleasure to the crowd.

The Red River Jig Contest, which was held on a raised platform, was keenly contested by the old timers, and as usual proved a highlight feature.

In the evening dances held in the Waterhole Hall, and the Fairview Hall, brought to a close a very enjoyable old timers' reunion.—Fairview, Alta.

Calf Show is Outstanding Success

The Hartney Calf Show proved to be the best in the history of the organization with a heavy entry of high quality calves.

Awards were placed as follows: 1, Marjorie Galbraith; 2, Phyllis Taylor; 3, Watson Roper; 4, Lorne Robson; 5, Retta Robson; 6, Everett Eastman; 7, Freda Morrison; 8, Anna Galbraith; 9, Morley Loughheed; 10, Hazel Roper; 11, Bob Galbraith; 12, Billy White.—Hartney, Man.

Returned Veterans Marry

The wedding of Thelma Kennedy, daughter of Mr. and Mrs. H. V. Clendening, to Arthur Edwin Gregg, son of Mrs. A. M. Gregg, Belfast, Northern Ireland, took place at the United Church, Gunton, recently. The ceremony was conducted by S/L the Rev. A. B. Simpson, of Winnipeg. The bride was attended by her sister, Mrs. John Weglo, and the groomsmen were the bride's brother, F/L H. V. Clendening. Both bride and groom served overseas with the R.C.A.F.—Gunton, Man.



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need it—to feed newly
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OTHER USES—Electropail has many other time-saving and chore-saving uses such as supplying hot water for warming up feed for stock, poultry and in your Milk House for washing milking machines, cans, accessories and separator parts.

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CLEAR LAND FAST Powerful 6-HP motor with friction clutch for safe operation. Cuts down timber, brush and hedge; turn blade vertically: saw logs to length. Can be equipped to fell large trees. Clutch pulley for belt work. Guaranteed.
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STANDARD
MODELS
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WATERLOO ONTARIO

NEW CANADIAN WHEAT POLICY ANALYZED

Continued from page 39

trade. Maintenance of markets in other countries than Great Britain is of great importance. Continuing prosperity for western wheat producers is only possible if large sales can be made to such countries. One of the most important things to watch during the next few years is how successfully the export of Canadian wheat is carried on under this plan. There may be difficulties in attempting to follow the level of prices established on the Chicago market and, if so, these will gradually come to light.

The level of \$2.05 established for such sales tends to emphasize the price advantage derived by Great Britain in getting assurance of a basis of \$1.55 for two years. If Canada makes large sales at the higher price it will be an important factor in negotiations yet to come to fix the price basis to Great Britain for the crops of 1948 and 1949.

Season's First Car of Oats

A first car of the season of new oats was shipped from the U.G.G. elevator. These oats were grown and delivered by W. Burdett who farms about two miles south of town. This was the earliest delivery for oats received for many years.—Bredenbury, Sask.

Calf Club Sale Is Success

When the Benalto and Gilby Beef Calf Clubs held their annual show and sale of calves at Eckville recently, thirty-two club calves and twenty-five commercial calves were sold by auction for a gross amount of \$6,894.34. The Junior Club calves alone brought a total of \$4,989.18, being an average of 20.34 cents per pound. The Grand Champion calf, raised and exhibited by Jim McBride, of Benalto, was sold to the T. Eaton Co. Ltd., Red Deer, at 37 cents per pound. It was learned at the sale that all winning calves were raised on Money-Maker feeds.

Prizewinners were as follows: Departmental prize, Benalto—1, Jimmy McBride; 2, LaVern Hambly; 3, Terrance Hambly; 4, Lou McBride; 5, Patsy Hambly; Gilby Club—1, Barbara Broderson; 2, Donald Broderson; 3, Margaret McDonald.

Mr. Clyde Stauffer, as principal speaker, outlined certain changes in policy contemplated for all clubs next year and urged parents to encourage and support Junior Club activities to the utmost.—Benalto-Eckville, Alta.

CHANGE IN U.G.G. BOARD OF DIRECTORS



Charles E. Hope, of Fort Langley, B.C., resigned in July from the board of directors of United Grain Growers Limited. He has been succeeded, for the remainder of this year, until the Company's next annual meeting, by H. W. Allen, of Hualien, Alberta.

Mr. Hope had served continuously on the U.G.G. Board for 24 years, having first been elected in 1922, and continuously returned to office in subsequent elections. Prior to his election to the Board he was officially connected with the Company both as a member of the Board of the United Grain Growers Fort Langley local and as a member of the Advisory Board of the British Columbia Agency through which the Company at one time carried on an extensive business in supplying feed to British Columbia farmers.

A Yorkshireman by birth, Mr. Hope came to Canada as a young civil engineer, choosing British Columbia for his home. In spite of professional and business interests, he was attracted by farming, and acquired a large farm at Fort Langley, where he has made his home for many years, as well as farming interests in Saskatchewan. Mr. Hope has always shown a strong interest in public affairs and became well known for his interest in and writing on the Japanese problem in B.C.

Two of his sons have attained prominence in political life. Alex. Hope is a member of the British Columbia legislature and Professor Ernest Hope, formerly with the University of Saskatchewan, is widely known as an authority on farm economic problems.

At a farewell dinner, members of the board of directors paid tribute to Mr. Hope's faithful and useful service.

H. W. Allen, who has replaced Mr. Hope on the U.G.G. Board, is one of the best known farmers of the Peace River area, where he settled in 1911 after some experience both as a teacher and a chemist. He served as a member of the Alberta Legislature from 1926 until 1935 and from 1934 to 1935 he was Minister of Lands and Mines and Municipal Affairs for the province. He has been active in agricultural and co-operative organizations. President of the Grand Prairie Livestock Shipping Association until 1941, he took an active part in the formation of the Alberta Livestock Co-operative Association Limited, of which he has been president since that time.

"On Anxiety Street there are plenty of neighbours."

"It's mighty decent of you, Harry, to take young Bill to school while I'm on my back," said Don.

"Yes, it's a real neighbourly act," his wife added.

"Think nothing of it," said Harry. "They say, you know, that on Anxiety Street there are plenty of neighbours. Certainly I've learned a lot about being neighbourly from the business I'm in."

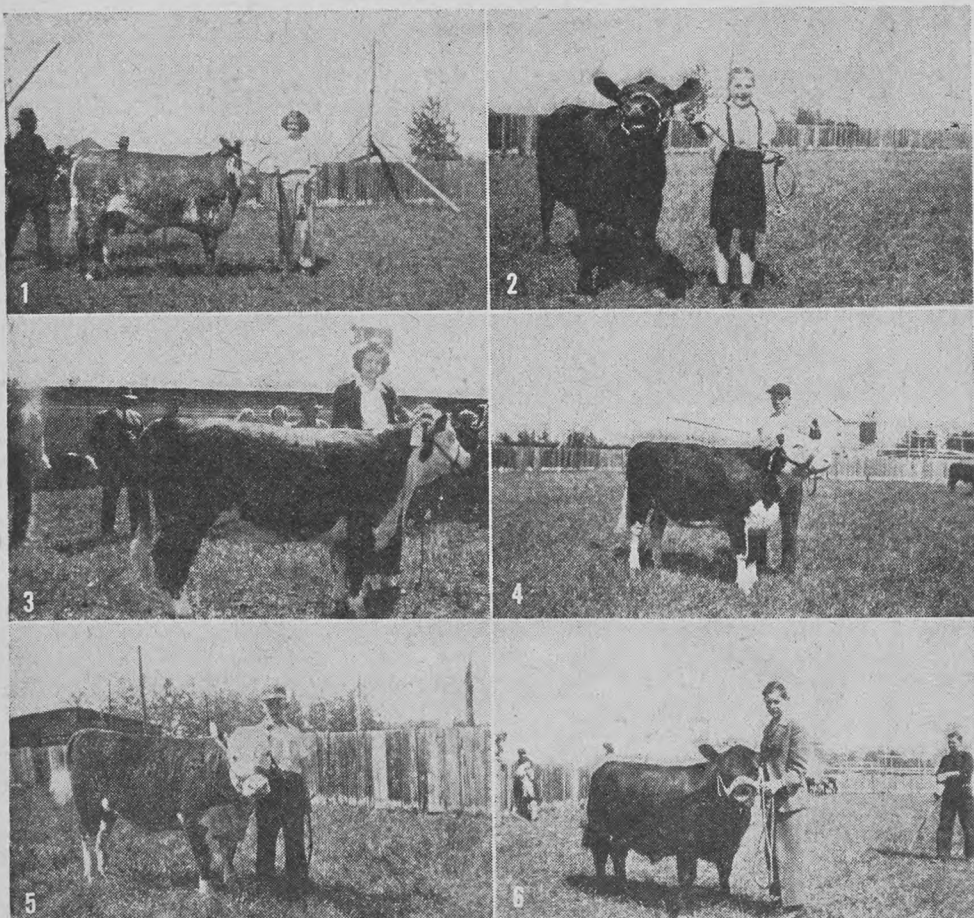
Harry's business . . . the life insurance business . . . is founded on that very thing. It comes to the aid of anxious people in time of trouble or bereavement. Four million people have found that the surest way to peace of mind for themselves and their loved ones is to pool their savings and share in the benefits of a fund which pays out more than half a million dollars every working day to policyholders and beneficiaries.

.

Life insurance was designed to provide protection for the people through the people's thrift. During the war years its payments to policyholders and beneficiaries in Canada amounted to over One Billion Dollars. Thirty Million Dollars of these payments went to beneficiaries of those who had died on Active Service overseas.

Near you is a life insurance agent. Ask him for advice in planning your future. It is good citizenship to own life insurance.

A message from the Life Insurance Companies in Canada and their agents.



1, Gilby Club—3rd, Margaret McDonald; 2, Benalto Club—4th, Lou McBride; 3, Gilby Club—1st, Barbara Broderson; 4, Benalto Club—3rd, Terrance Hambly; 5, Benalto Club—2nd, Lavern Hambly; 6, Benalto Club—1st, Jimmy McBride.

CANADA PACKERS LIMITED

REPORT TO SHAREHOLDERS

The nineteenth year of Canada Packers Limited closed March 28th, 1946. The following is a comparison of operations with those of the preceding year:—

	Year Ended March 1946	Year Ended March 1945	Decrease
Dollar Sales - - - - -	\$ 208,997,520	\$ 228,398,111	8.5%
Tonnage—lbs. - - - - -	1,526,000,000	1,698,000,000	10.1%
Net Profit, after Taxes and Depreciation, but before Inventory Reserve - -	1,816,781	2,405,811	24.5%
Net Profit, expressed as:—			
Percentage of Sales - -	0.87%	1.05%	17.1%
Per lb. of product sold—			
approx. 1/8c per lb.		1/7c per lb.	16.0%

(During each of the war years,—as explained in preceding Annual Reports,—a portion of the profit was set aside as Wartime Inventory Reserve. In year ended March, 1945, the amount set aside for this purpose was \$581,000. In total the sums so set aside amount to \$4,000,000. It is hoped this total will prove sufficient. Accordingly, in the year under review, no reserve has been set aside for this purpose.)

The share structure of the Company is:—

400,000 'A' Shares

which carry a cumulative preferential dividend of \$1.50 per Share.

800,000 'B' Shares

non-cumulative,
present dividend 50c per Share.

Net Profit (\$1,816,781) therefore is equivalent to:—

On 'A' Shares \$4.54 per Share.
On all Shares \$1.51 per Share.

The table below sets forth the record of the year's operations in terms of Sales.

Out of each Dollar of Sales there was paid:—

	This Year	Last Year
For Raw Materials, chiefly live stock - - - -	81.33c	82.35c
For Expenses, consisting of wages and salaries, materials, packages, sundry charges and taxes -	17.43	16.20
For Depreciation - - - - -	.40	.41
Total for Raw Materials and Charges - - - -	99.16c	98.96c
The remainder, Profit on Operations, is - - -	.84	1.04
Sundry Income, from Investments, etc. - - - -	.03	.01
Total available for Shareholders - - - - -	.87c	1.05c
Set aside for Wartime Inventory Reserve - - -	—	.25
Net available for distribution - - - - -	.87c	.80c
Dividends paid - - - - -	.48	.39
Remainder out of each Sales Dollar, left in the business for its expansion and improvement -	.39c	.41c

The operations of the Packing Industry are of importance to all groups of the community.

Inasmuch as meat is an essential food, the welfare of all citizens is involved,—as consumers. Their interest requires that the meats should be processed in the most palatable manner, and that all nutritional elements should be safeguarded.

(In respect of nutrition, exigencies of the war period have led to important advances. Food elements of high value are now being saved for human consumption, which formerly were used chiefly in feeds for live stock. Most of these are at present being shipped to Europe in the form of canned meats, and are being distributed through the UNRRA organization.)

Besides its interest as consumer, one group is specially interested on the economic side,—viz., the producers of live stock.

In the year under review, out of each sales dollar,
producers received - - - - - 81.33 cents

This is less than the return of the preceding year, which
was - - - - - 82.35 cents

The lower return to the producer* was due to an
increase in the cost of materials and wages:—

Last year - - - - - 16.20 cents

This year - - - - - 17.43 cents

The sum available for Shareholders is also reduced:—

Last year - - - - - 1.05 cents

This year - - - - - .87 cents

V-E Day was May 8th, 1945.

V-J Day was August 15th, 1945.

So that, at the close of the Company's fiscal year (March 28th, 1946), the war in Europe had been over 10½ months; that in the Pacific 7½ months.

Nevertheless, conditions within the Food Industry were still being determined by factors deriving from war, more completely than in any war year prior.

The end of the war found world reserves of food at the lowest level of modern times. On the other hand, it threw upon the Allies the duty of feeding the populace of enemy as well as of allied countries.

The food so urgently needed had to come from the surplus-producing countries. Of these, Canada is one of the chief.

No one would claim that Canada has done all possible to cope with this food crisis. In a world in which hundreds of millions are undernourished, and in which scores of millions are living on the verge of starvation, consumption of food in Canada is at a higher level than ever before.

This is not due to indifference.

In a country where food is abundant, it is easy to forget that, thousands of miles away, food is scarce. Besides, Canada is herself feeling the pinch of scarcity in certain foods, especially edible fats and sugar. This fact tends to obscure her overall abundance.

Canada's contribution has been substantial. She has curtailed (by rationing) her consumption of certain foods—especially meats and butter. And in total very large quantities of foods have been shipped to Great Britain and Europe.

*Footnote.

Although the Producer received a less percentage of the Packer's Sales Dollar, nevertheless the actual prices paid for live stock were higher; as appears from the following table:—

	Average Prices for Month			
	March, 1939	March, 1945	March, 1946	July, 1946
Good Steers, live, Toronto - - - -	6.78	11.54	12.12	13.22
Hogs, B-1 dressed, Toronto - - - -	12.25	19.42†	19.35†	21.87†
Lambs, live, Toronto - - - -	9.10	14.92	14.94	16.91
Eggs, 'A' Large, Toronto - - - -	.21½	.35	.35	.46
Creamery Butter, Toronto - - - -	.21¾	.43½†	.44½†	.48½†
Cheese, f.o.b. factory, Ontario - - -	.11	.26¼†	.26¼†	.26¼†

†Prices of Hogs, Butter and Cheese include Federal and Provincial subsidies.

For the year 1945, these shipments included:—

Bacon	- - - - -	447,000,000 lbs.
Other Pork products	- - - - -	10,000,000 lbs.
Beef	- - - - -	184,000,000 lbs.
Cheese	- - - - -	133,000,000 lbs.
Canned Meats	- - - - -	95,000,000 lbs.
Mutton and Lamb	- - - - -	7,000,000 lbs.
Evaporated Milk, Milk Powder and Condensed Milk	- - -	25,000,000 lbs.
Shell Eggs	- - - - -	60,000,000 lbs.
Dried Eggs	- - - - -	24,000,000 lbs.
Canned Fish	- - - - -	57,000,000 lbs.

1,042,000,000 lbs. — 521,000 tons

The above is the list of 'protective' foods. Canada's major contribution in 1945, however, was in the form of cereals. Shipments of these were:—

		Tons
Wheat	- - - 181,300,000 bushels	5,438,000
Oats	- - - 13,400,000 bushels	228,000
Barley	- - - 4,000,000 bushels	97,000
Flour	- - - 9,900,000 barrels	970,000

6,733,000 tons

Grand Total - - - - - 7,254,000 tons

In no previous year had the enormous potentialities of Canadian Agriculture been so fully demonstrated.

Live Stock Marketings

Compared to the previous year, Cattle slaughterings during 1945 were heavy, while Hog slaughterings were light.

The following table gives the record of Canadian Inspected Slaughterings for the war years.

	Cattle	Hogs
1939	- - - - - 873,000	3,628,000
1940	- - - - - 890,000	5,455,000
1941	- - - - - 1,004,000	6,274,000
1942	- - - - - 970,000	6,196,000
1943	- - - - - 1,021,000	7,174,000
1944	- - - - - 1,354,000	8,766,000
1945	- - - - - 1,820,000	5,684,000

Examination of this table reveals a striking divergence of trend as between Cattle and Hog deliveries.

In the early war years, Hog marketings increased rapidly: —

from	- - - - - 3,628,000 in 1939
to a maximum of	8,766,000 in 1944
An increase of	- 5,138,000—142%

Following 1944, a decline set in.

In 1945 the decline was - - - - - 3,082,000 Hogs — 35%

This decline has continued in 1946.

To the end of July, the comparison is: —

January to July, inclusive, 1945	- - - 3,625,000 Hogs
January to July, inclusive, 1946	- - - 2,601,000 Hogs
Decrease 1945 to 1946	- - - 1,024,000 Hogs—28%
Decrease 1944 to 1946	- - - 3,049,000 Hogs—54%

Cattle marketings, on the other hand, in the early war years increased slowly.

By 1944 the increase (as compared to 1939) was - - - - - 55%

However, in 1945 inspected slaughterings of Cattle reached an all-time high, viz.	- - - - - 1,820,000 head
This was an increase over 1944 of	- - - - - 34%
and an increase over 1939 of	- - - - - 109%

In retrospect, this variation in trend (as between Cattle and Hog production) is easy to understand.

In the early war years, the pressure in respect of live stock production was to increase Hog numbers. When Britain's supplies of Bacon from Europe were cut off (in June, 1940), Canada became the sole external source of supply for Wiltshire Sides.

Canadian Farmers were urged to produce every Hog possible.

A further factor counted heavily. On Canadian farms, and in Canadian elevators, was stored a vast quantity of grain,—wheat, oats, barley,—for which no cash market existed. The only way in which this grain could be converted to cash, was through the medium of live stock.

Moreover, in those years, Hogs brought back to the Farmer a higher return for the grain fed than did other forms of live stock.

This combination of factors culminated in the phenomenal Hog marketings of 1944.

However, by the middle of 1944, the reserves of grain had been much reduced. There was not enough feed in the country to continue Hog production on the scale of that year. Moreover, an eager demand had sprung up in United States (at high prices) for every bushel of feed grain which Canada was willing to let go.

By this time, the swing towards Cattle production had already set in. For Cattle could be produced (relatively) with little grain. They could be fattened on the grass in Summer and carried over the Winter on 'roughage',—hay, straw, and corn stalks.

Moreover, by 1944, Cattle prices had caught up with Hog prices. Cattle were bringing back to the Farmer a return equal to or better than that for Hogs.

And the final and decisive factor was that the labour involved in raising Cattle was much less than that required for Hogs. Hogs had to be fed twice daily—365 days of the year. On the other hand, Cattle could be turned on to the pastures in Summer, and roughed in Winter.

By 1944 the Farmer was feeling the strain of the war effort. In response to constant appeals, he had enormously increased production, in spite of the fact that farm manpower had been reduced more than 20 per cent.

And he naturally swung to the less laborious form of live stock production.

The result has been that, at the present time, Cattle marketings are at an all-time high, whereas Hog marketings for the first seven months of 1946, while still 46% above those of 1939, are 54% below the peak of 1944.

This reversal in trend, as between Cattle and Hog production, was natural.

But it carries a hazard to the long-term interest of Canadian Agriculture which the Farmer should have very much in mind.

For Hogs and not Cattle are the Keystone of Canada's Live Stock Industry.

This statement is based upon fundamental economic factors.

Canada can produce Hogs in competition with the world. And she cannot so produce Cattle.

Canada is a country of vast agricultural areas, and relatively sparse population. She produces, and must continue to produce, a great agricultural surplus.

More than upon any other factor, her economic welfare depends upon the prosperity of her Agriculture.

And the prosperity of her Agriculture depends upon marketing the 'surplus' through the medium of those products

- for which an adequate world market exists;
- for which the world price will return a profit to the Canadian producer.

Those products are determined by Canada's soil, climate and geography. In the main, they are Wheat and Bacon.

In the past (particularly in the 1920's) Canada has at times sought to market her surplus almost entirely in the form of Wheat.

This policy brought disaster, because the world market could not absorb all of her Wheat. And, though for the moment the demand is unlimited, it would eventually bring disaster again.

But world markets will absorb Canada's total agricultural surplus if presented chiefly in the form of Wheat plus Bacon.

For Bacon, the open market of the world is Great Britain.

For sixty years Canada has had a place in the British Bacon Market, but never better than second place,—and often worse.

The circumstances of the war have placed her at the moment in undisputed first position. And the maintenance of that position should be the main objective of Canadian agricultural policy.

Is this objective attainable?

The answer is:—Yes, but not without a careful and intelligent long-term plan. Such a plan must include:—

1. Constant improvement of the quality of Canadian Hogs. Much has been accomplished, but much remains to be done.
2. Improvement of methods of husbandry;—to produce Hogs at the lowest possible cost. In this the chief factor is the feeding of a balanced ration.
3. To increase production to a level—
 - (a) which can be maintained year by year;
 - (b) which will permit exports to Britain in quantities sufficient to maintain Canada as her chief source of supply.
4. To send the Bacon forward in even week-to-week shipments. The Canadian Meat Board has already proved that this can be done, a fact never before demonstrated.

Of this programme the first and fundamental step is to reverse the trend of the last two years, and restore Hog production to an adequate level. That level should be such as to supply Canadian requirements of Pork products and, in addition, provide shipments to Great Britain of 400/500 million pounds yearly.

Prospect for Cattle Prices

Cattle marketings are now at an all-time high.

Does it follow, (from the argument of the preceding section), that in respect of Cattle production Canada is now in an unsafe position?

Not, at any rate, for three years. The Minister of Agriculture has indicated in Parliament (March 26th, 1946) that the United Kingdom will require all the Beef which Canada can spare in 1946 and 1947 and probably in 1948, and that discussions were continuing for the extension of the current contract to the end of 1947.

However, Canadian Beef can not hold a permanent place in the British market. For Canada can not produce Cattle in competition with South America and Australasia.

At some date, it seems likely that the pre-war situation will be restored, when two outlets only will be available for Canadian Cattle—

1. The domestic Beef market.
2. An outlet for a limited number of Cattle in United States.

The domestic market will be a much broader one than in the pre-war period. In the last three years consumption of Beef in Canada has averaged 64½ lbs. per capita per annum.

The corresponding figure for the three pre-war years was 55 lbs. This increase in domestic consumption amounts to 112,000,000 lbs. yearly, equivalent to approximately 240,000 Cattle.

And a still further expansion of the domestic market is possible, through a programme of co-operation between Producers and Packers.

The outlet in United States is restricted but most valuable. And it is hoped that when the time arrives to renew the (now suspended) trade agreement, an increase in this movement may be arranged.

On the whole, the near-term outlook for Cattle prices in Canada is more promising than in any preceding 'peace' period.

For the long future, however, the big fact is that Hogs and not Cattle are the live stock medium through which Canada's surplus must be cleared.

Since the close of the war, efficiency of plant operations has steadily improved. This has been due chiefly to the return to employment of experienced workmen following release from the Armed Forces. An important additional factor has been the attitude of co-operation which has replaced the somewhat disturbed atmosphere of the war period.

For this, the officers of the Company wish to express their thanks and appreciation to employees of all ranks.

As in previous years, an important share of the profits was distributed to employees in the form of Bonus.

The sum distributed at the year-end was - - - - - \$1,200,000

That this was a substantial distribution is evident from comparison with the following figures:—

Net Profit was - - - - - \$1,816,781

Dividends to Shareholders were - - - - - \$1,000,000

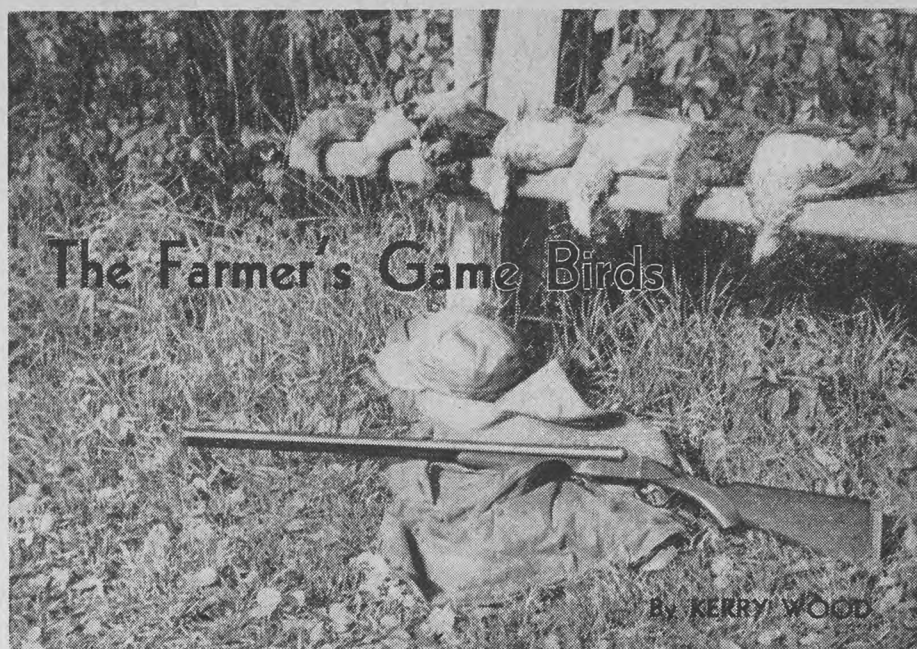
Since the policy of Bonus distribution was begun (11 years ago), total distribution has been - - - - - \$7,368,000

J. S. McLEAN,

Toronto, August 23rd 1946.

President.

Extra copies of this report are available and so long as they last, will be mailed to anyone requesting them. Address to Canada Packers Limited, Toronto 9.



A mixed bag: Two Huns, a Ruffed grouse, four Sharp-tailed grouse and a tired gun.

HARVEST and hunting seasons arrive at the same time every fall. For that reason few farmers can spare the time to go bird-game shooting. They may like a mess of ducks as well as the next fellow, and they may have a dandy pot-hole slough down on the far corner of the home farm just covered with quackers, but the owner of the land is too busy with binder work or stooking or running the combine to take a shotgun a-field after ducks. He sees the geese come honking in from the big lakes, circling warily before alighting on a favored field, but the man can't take the time to dig a pit and wait the long hours necessary to line a gun on the wily Canadas. The Hungarian Partridge or the Prairie Chicken or the Ruffed Grouse seasons, many of them cancelled of late because of the cyclic scarcity of the birds at present, usually occur during October when most farmers are cleaning up the last of the threshing and are anxious about the threat of snow clouds.

But our pioneer farmers knew the flavor of the 15-odd varieties of ducks and could tell you that Ruffed Grouse meat is white and delicious while Sharp-tailed Grouse flesh is dark and rich, and they knew that a grain fattened Jack Rabbit was a tasty morsel to take home for the oven or the stew pan. Most pioneer farmers relied on getting game birds for feeding the threshing crews, and many a full-time harvester got heartily sick of Prairie Chicken meals before the threshing season was finished. Game meat was important in the old days, before the motor car and decent roads made it possible to slip into town and visit the butcher shop or take out a roast from a cold storage locker. Now farm fields are larger, game birds are relatively scarcer and more difficult to hunt than in pioneer times, and farmers are simply too busy to be bothered with hunting during the rushed days of autumn.

And there may be another reason. The farmers see the birds busy with the nesting duties every springtime. They mark the site of the Prairie Chickens' dancing ground and watch the proud drumming of a cock partridge, and it is wonderful to view the bright plumages of the waterfowl every April and May. Later, the farmers are abroad on their lands when the mottled chicks of the Sharp-tailed Grouse are running nimbly after the hen birds. Sometimes they chance to meet a Ruffed grouse female with her brood and see the clever dramatics of the mother

as she feigns broken wing and dragging leg to decoy the human away from her precious chicks. A flock of yellow-downy ducklings swimming behind a watchful Mallard is always a pretty sight, too. Farmers enjoy all these intimate glimpses of game birds, and it is natural for many good farmers to adopt a protective attitude towards the beautiful wild creatures and appoint themselves the birds' guardians on their own lands. The writer can readily understand that attitude, because once he camped beside the nest of a pair of Canada geese for a month's time and had the birds' family life under daily observation during that time. Ever since then, while the writer still carries a gun a-field every fall, he has never again pointed a weapon at a Canada goose, having learned an enduring respect for this beautiful, freedom-loving game bird. Many farmers feel the same way towards every variety of game bird on their lands.

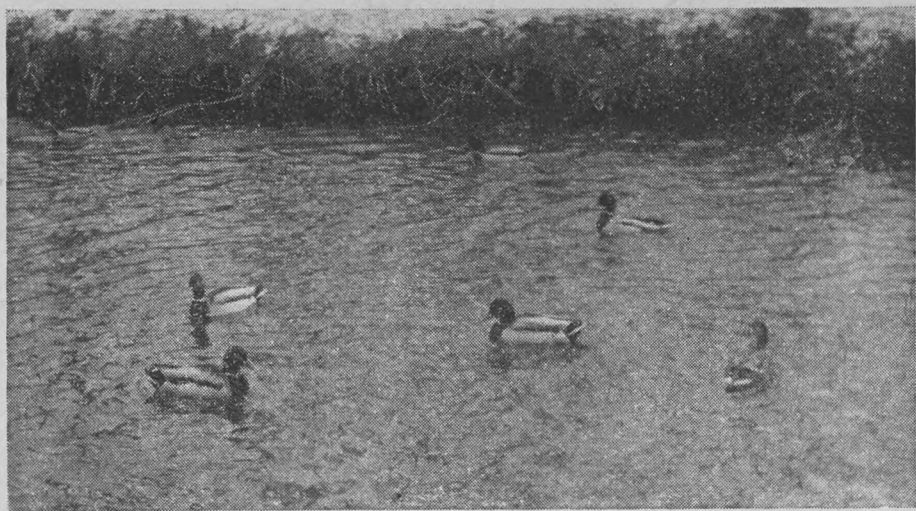
After all, farmers raise our game birds. Sportsmen are sometimes inclined to forget that most important fact. We have one of the world's finest "free" hunting areas here in Canada, largely due to the kindness of farm folk who generously give permission to city and town and tourist hunters to wander across their enclosed lands and seek game. Sportsmen should never abuse those splendid privileges, remembering to shut gates, to replace sheaves used in building blinds, always careful about the shooting background and avoiding fields where valuable stock animals are thickly pastured. Sportsmen should also remember the farmers' interests before importing foreign game birds to an agricultural district. As an example, the beautiful pheasant is very destructive to vegetable gardens and to small fruit crops: in certain areas where the pheasants have thrived the farmers

have suffered serious financial losses. There have been years when Mallard ducks have done great damage to grain crops in certain parts of the West, yet sportsmen are still spending heavily to raise more Mallards when the money should properly be spent sponsoring scarce waterfowl like Canvasbacks and Red-heads and other deep water ducks that never do damage to farm fields.

While game birds belong to all the people of Canada, most of the birds grow to maturity on farmers' holdings. Hence farmers should always have a large vote in matters pertaining to this national asset. Only by mutual understanding, between farmers and



The Canada goose whose V'd flock twice yearly announce the coming of Spring and the departure of Summer.



Western Canada's favorite duck is the Mallard.

sportsmen, can we in Canada hope to avoid the closed shooting and private

preserves of the wealthy that stopped "free" shooting in the Old World.

Ned Morgan Loved Horses

How he was saved from the Frank Slide

By MARY L. MACDONALD

FORTY years ago news of the Frank Slide was flashed across the country. The top of Turtle Mountain, in the Canadian Rockies, had fallen, burying part of a coal camp and killing a hundred people.

The anniversary of this catastrophe has recalled some of the small incidents which, at the time, went unrecorded. One of these stories tells how a man's love for his horses saved his life.

Ned Morgan had a little place in the foothills, about eighteen miles northeast of Frank, in southern Alberta. It had been an exceptionally mild winter and early spring, so he was out plowing on Tuesday, April 28, 1903.

Soon he saw a horseman approaching and recognized John Graham, who with his brother lived on a small farm adjoining the property of the Canadian-American Coal Company, at Frank. John told Ned that he and his brother had decided to leave the mine work and devote all their time to their farm and to establish a dairy business. The population of Frank, he said, was rapidly increasing as the miners were bringing in their families, and he thought they would be assured of a good market. He was looking for some good milk cows.

Morgan unhitched his team and put them in the barn. As he expected to soon return to his plowing he left the harness on them. He caught his saddle pony and he and Graham rode to the cow pasture to look over his herd. After some bargaining, Graham decided to buy two cows with their young calves.

It was hard to get the stock to the highway. The trail out led through dense woods and the cows kept wandering off among the trees. As soon as the men had one cow and calf safely on the path, and headed in the right direc-

tion, the other family group would be discovered half way back to the pasture.

So the men decided to work with one pair only and to come back later for the others. They got the two on the highway and then there was more trouble, so that it was late when the two horsemen reached John Graham's home. They had supper and then as they were so weary, it was decided that Morgan should remain overnight.

He had one shoe off and was tugging sleepily at the other, when suddenly he jumped to his feet and called, "I can't stay after all. My team is still harnessed in the barn at home."

So, as nothing could dissuade him, he set off for home, arriving there about daylight. He attended to his team and walked to the house. All at once he noticed a very peculiar looking cloud in the western sky.

"They are in for a bad storm up at Frank," he said to himself, "I am lucky to be home."

He was luckier than he knew. Later that morning a lone rider stopped at his ranch and told him of the disaster at Frank. The cowboy called it an earthquake. Others said it was a volcanic eruption, still others a mine explosion.

Geologists have since decided that it was a combination of causes that caused the avalanche, one of them being an over-mining under an unstable lime stone formation.

Destruction was spread over a ten mile area. Morgan asked at once about his friends the Graham boys. The cowboy just shook his head. John Graham and his brother, and their farm, were lying under tons of rock.

Had Ned Morgan not been considerate of his team, he too would have been buried by the Frank Slide.

Florence Nightingale's Romance

THE popular conception of Florence Nightingale is that of a kind hearted, sympathetic nurse, "the lady with the lamp," beloved by wounded Crimean war soldiers. Those who have read her biography know that she was also a strong, dominating personality, who knew how to impose her will on English generals bound in red tape. Not many know that in her youth she had a romance. If she had been married she probably would have been a happier woman, but we would never have heard of her.

The romance was with her second cousin, John Smithurst. They had grown up together. Parental objections prevented the match, and he asked her what he should do with his life. She answered, "Go to North America as a missionary to the Indians."

After his ordination he sailed for Canada, and for 12 years was a faithful minister of the church in Manitoba, at Lower Fort Garry. In 1851 he returned to England but a year later went to Ontario, and settled near St. Catharines. A few months afterward he became rector of an Anglican church at Elora,

Ontario, but five years later, on account of failing health, moved to a bush farm near Clifford, which he called Lea Hurst in memory of his birthplace. There he lived for nine years, where he was known as a kindly retired minister. But his health became worse and he returned to Elora, where he could have better medical attention. He died there in 1867, Confederation year, and lies in one of the village cemeteries.

In St. John's Church, Elora, there is still a communion service, which Rev. John Smithurst brought from England in 1852. Some claim it had been given to him by Florence Nightingale. On it is a Latin inscription, the translation of which reads: "Acting as agent for someone, Ebenezer Hall gives this set of communion silver to Rev. John Smithurst, a very dear friend in grateful remembrance of his many kindnesses. A.D. 1852."

It was while he was preaching in Elora that the Crimean war was fought and that Florence Nightingale achieved eternal fame as "the lady with the lamp."

OGDEN'S

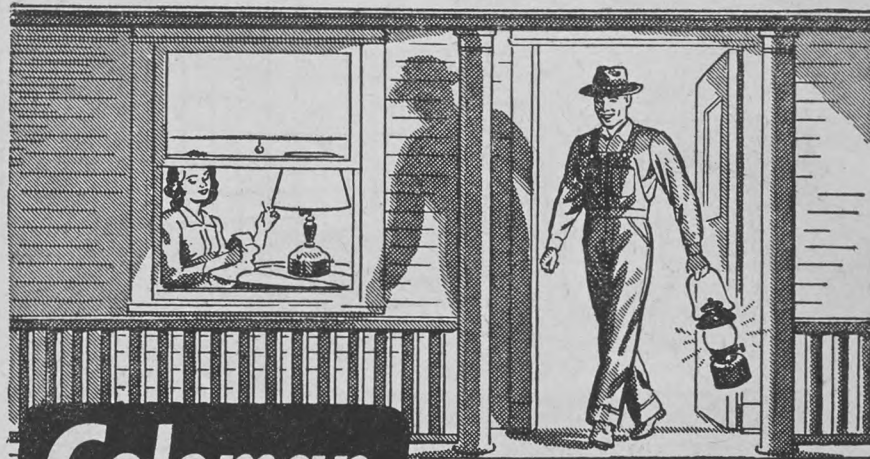
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Rolls an A-1

Cigarette



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Paying the Mortgage

Time deals ruthlessly with an old farm rite

By HARRY J. BOYLE

I WAS quite a small boy the time grandfather allowed me to go with him to pay the mortgage. We drove into town, a distance of 16 miles with a load of wood, a side of pork, two bags of potatoes and some preserves which my grandmother insisted he take along to Mrs. Smith.

Issac Smith held the mortgage on my grandfather's farm. He lived in one of those great wooden, Victorian style houses with all the gingerbread fringe around the massive veranda that ran along three sides of the house. There was a driveway running up to the house which sat quite a long way back from the road. The lawn had that fresh clipped look about it and there were plenty of flowering bushes and shrubs around. It made a great impression on me. I had often seen such homes, as a country lad coming to town, but on this occasion I was going to actually go inside one of these fabulous places!

Mr. Smith in smoking jacket and carpet slippers and puffing at a blackened, old meerschaum pipe welcomed my grandfather and myself.

We were taken into the library. My eyes almost popped out of my head. It was like going into the public library, except for the chairs. In this dim sanctuary of books there were comfortable wicker chairs and there was a smell of well rubbed leather from the old fashioned couch and over all the atmosphere of the place was saturated with tobacco and cigar smoke.

I sat with my cap in my hand while a pleasant half hour of banter and conversation took place between my grandfather and Mr. Smith. Mr. Smith impressed on my grandfather how bad things were for any man who had his money out "on loan" and my grandfather told Mr. Smith how poor the crops had been and went into great detail about the heifer due to freshen that had bloated and died on the spring grass.

A Tactical Diversion

When Mr Smith was slightly cornered in the conversation he would turn and ask me how I was and what class I was in at school. During the course of the conversation he asked me the same questions about three times.

Finally they started talking about the mortgage. Mr. Smith seemed almost apologetic about having sent the mortgage notice. My grandfather very pointedly began talking about the scarcity of dry wood for burning in a heater. Later on he turned to the subject of a dry rot which was taking toll of a lot of potatoes in his neighborhood.

Mr. Smith who seemed not to have noticed that we had a load of wood and some potatoes on the wagon asked my grandfather if he had any or either to sell. My grandfather told him he had half promised some to John Donnelly the hardware merchant in town.

Mr. Smith gave my father a drink and took one himself and Mrs. Smith appeared for a few moments and later reappeared with a glass of lemonade for me. Neither Mr. Smith nor my grandfather took any of the cookies off the plate she left on the table but I managed several.

My grandfather at last suggested that if Mr Smith would like a jag of wood and a few potatoes he could spare them. Mr. Smith agreed and they haggled a little bit over the price. My grandfather finally settled for 25 cents a cord over market price for the wood and ten cents a bag over the going price for the potatoes.

Mr. Smith then got out pencil and paper and they worked on the mortgage payment. Mr. grandfather watched over his shoulder and later on took out a great, deep leather purse and paid the balance in cash. Mr. Smith then gave grandfather a cigar and they shook hands and we went out to unload the potatoes and wood. Mr. Smith stood on the veranda and watched us.

Grandfather sent me back into the house with the two jars of wild strawberries and the jar of dill pickles. Mrs. Smith, a kind faced woman with grey hair who wore a black silk dress thanked

me and told me to wait a minute. She gave me a bundle and a package of licorice candy. She told me to tell my mother that there was a dress in the bundle which she could make over for herself and a jar of mustard pickles for my grandmother.

Just before leaving my grandfather seemed to remember the side of pork. Mr. Smith looked it over and named a price. My grandfather named a higher price. They haggled a little bit and finally struck a price. Grandfather took it into the house and came back out about a quarter of an hour later wiping his moustache off. He sang quite a bit on the way home. He was in good spirits. It was a pleasant afternoon.

My father used to settle his mortgage at the local bank. Ed Myers was the manager and he had gone to school with my father and they used to play on a lacrosse team together. They used to sit and chat and smoke in the little office at the back of the bank. If father was a little short of cash Ed would have the accountant come up and fix up a note which was set to come due when the cattle were sold or the next load of pigs went to market.

The mortgage on my farm never caused me much concern up until this year. John Graham, a retired farmer who lived in the village, has had it for the last ten years. John died just after I paid the interest last year. He took three bags of potatoes, a gallon of maple syrup, a load of blocks and the rest in cash.

His estate is being handled by a mortgage company, or a trust and loan company or whatever you call them. I got a notice in the middle of haying and didn't pay much attention to it. Then I got a nasty sort of letter signed by an A. L. Anderson.

My wife and I finally drove into the city. The hay was off and the wheat wasn't fit to cut. I slipped a bag of potatoes into the back seat of the car and my wife fixed a couple of chickens for roasting.

My wife went shopping and I dropped over to pay the mortgage expecting that it would be quite a pleasant operation. The building first of all wasn't quite what I had expected. It looked a lot like pictures of a Greek temple with great pillars and a lobby big enough to hold a hundred acres of hay when cured.

The Vestal Tending the Sacred Fire

I moved around from place to place and even got up on the second floor before I discovered a rather pleasant young woman who directed me to the Mortgage Department. To my surprise, A. L. Anderson turned out to be a brisk looking woman with those funny spectacles that have green rims and the shape of cat's eyes.

Without even a comment about the crops or the weather she pushed a form at me. This was to signify that my payment was so many days overdue and on it she quickly calculated how much extra interest I had to pay. There was a two-tenths of a cent fraction involved and she threw that off.

I was almost speechless and handed over the money. The whole transaction took a very few minutes. She thanked me and turned away from the counter where I had been standing.

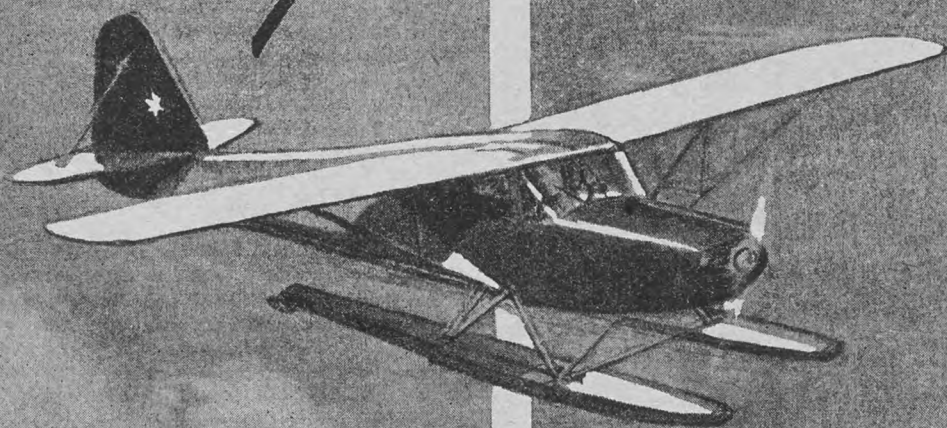
On an impulse I said, "Do you like potatoes, miss?"

She turned and replied, "I can't eat them. They're fattening."

Now I ask you, just what is happening in this world of ours. We're losing the amenities that used to make mortgage paying at least a little pleasant.



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Fleet "Canuck" is not only easy but *safe* to fly, being remarkably steady in the air and automatically self-levelling and self-stabilizing. It cruises at a speed of 100 miles per hour, has a maximum range of 470 miles and a service ceiling of 12,000 feet. The basic construction of the Fleet "Canuck" is *all metal*. Dual flight controls are provided throughout.

It is specifically designed to meet conditions when operated from rough fields. It is available with floats and skis if desired.

A special feature of the Fleet "Canuck" is its surprisingly large baggage compartment. With two passengers it still accommodates 23 cubic feet of baggage. This permits the easy carrying of large quantities of fishing or hunting equipment or any other load comparable in size to that you would normally carry in your automobile.

Many Fleet "Canucks" are now in service, look for them wherever you live. For full information, see your local dealer or write Fleet Aircraft, Limited, Fort Erie, Ontario.

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Every WIFE



...should answer these 4 questions:

1 Without you, could your husband run the farm AND take proper care of the children? Probably not, if he's as busy as most farmers! Any suitable arrangement for the children would cost extra money. That's why you, as his partner in running the farm and the home, should carry insurance on your own life. In *any* partnership, protection against sudden emergencies is important . . .

2 How MUCH extra money would he need? The only way to answer this vital question is to work it out in black and white with your husband. Calculate what the extra costs would be for immediate expenses, for maintaining the home, for the children's education. Then you will know the amount of Mutual Life of Canada insurance protection you need . . .

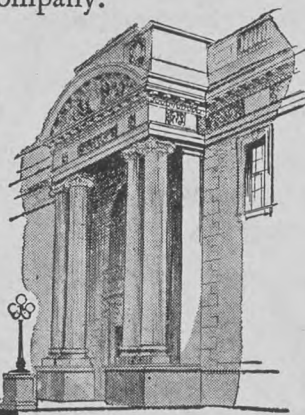
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THE WILD BUNCH

Continued on page 6

"Yes."
She watched Virginia's expression change again. Her mouth lost its firmness, her lips came apart slightly and she seemed to be struggling with fear. She lost color and her eyes grew round. She shook her head, speaking in a fainter voice. "You're to blame for it."
"I thought you might mention that," said Rosalia.

"You are," repeated Virginia. "Bill's been down here before. Visiting you. I always knew that, for when he came back he never was quite the same toward me."

"He's been down here," said Rosalia. "He's that kind of a man, thinking himself very charming. I suppose he thought a woman couldn't resist him. That's his weakness, among other weaknesses. But he never came into my house at my invitation. He walked in of his own accord, and he soon walked out. I don't think he knows how close he came on one or two occasions to being shot by my people. He has never been in Sherman City without being watched every step of the way. If I had ever encouraged him he never would have come back to you. I wouldn't worry about that, Virginia. He got no help from me. I thought him a fool. If your tastes are different, you're welcome to him."

"You're to blame," repeated Virginia. "When he knew Frank Goodnight was seeing you it made him jealous. He came to town last night and shot the wrong man."

"He can thank God he didn't shoot Frank," said Rosalia. "Do you think he would be alive now—"

"Ah," said Virginia. "That's the way of it."

"Yes," said Rosalia.

Virginia's voice grew scornful. "So he sleeps in your house. Is that the way you hold a man?"

"It would be nice to know—if I held him."

"Why else did he come?"

"He was drunk," said Rosalia. "Not knowing there were four men in town waiting for him. I brought him here."

"Drunk?" breathed Virginia.

"Do you know why? Because he was troubled. He had shot a man, out of revenge, and the satisfaction that should have come from it didn't come. Everything was the same as it was before. He couldn't understand why. So he got drunk, thinking maybe he'd find out why. But he didn't." She paused, and went on. "You came here to ask me to let him alone, didn't you?"

"I did," said Virginia, "but I suppose it was a foolish hope. You'd do anything to hurt me."

"Now I'll say something you won't understand. If you keep him on Sun he'll soon go bad, doing your dirty chores."

"I have got to defend myself against Harry Ide. Is that a dirty chore?"

"You've got Boston Bill and all the men you need."

Virginia shook her head. "I'm not sure about that."

"What you mean is that you are not sure of Boston Bill," pointed out Rosalia. "I can see all the way through you. You use Frank to whip Bill. Bill is cool to you and you think perhaps another man will waken him."

VIRGINIA stared at her, revealing nothing. Virginia said: "Maybe."

"Or perhaps you wish two to choose from. That would please you a great deal. All you've had up there so far have been bad ones not worth a second notice. Yes, I think that is perhaps something in your mind. As I said, you're stone cold, afraid to give, or too selfish."

"I think," said Virginia, "I know a better way to handle this. I'll have Bob Carruth tell Frank about you."

"He knows now," said Rosalia.

A storm, a fury, an actual hatred came across Virginia Overman's smooth, confidently beautiful face. She pressed her mouth together, making it small, making it unlovely. She said: "What have you done to him?"

"I'd kissed him," said Rosalia.

"I can do that," said Virginia. "Or any woman."

Rosalia showed a gleam of interest in her eyes. "Why don't you? It would tell him more about you in a minute—"

"Yes," said Virginia, "I think I'll have Bob Carruth speak to him."

"And what could Bob say?"

Virginia turned, walking to the door. She swung there, a suppressed triumph on her face. "I think anything he said of you would be true. But true or not, a word from a man to another man, a change of his tone, can damn any woman."

"Good-by," said Rosalia and watched Virginia Overman go away. She stood still, weary to the bone from the meeting. She had matched the iron in Virginia Overman, she had struck as she had been struck, and now the letdown was something in her flesh and nerves. Virginia would do as she said she would do. She would send Carruth to Goodnight with some story or other and that would be enough. A woman's reputation never stood up under that kind of attack.

Then she thought: "If he believes the story it will mean that I was never anything to him but a woman who kissed him. But if he has any tender thoughts about me—"

Syd came to the doorway, knocking. He said: "She don't know it but there's eight of Ide's men in town, watchin' her."

"They'll leave her alone," said Rosalia.

"But whut they in town for?" suggested Syd. "Somethin's boilin' up."

"Something's always boiling up," she said.

"Sure a funny country."

"Funny," she said, and made him throw his head back by the sudden energy of her cry. "Funny? Go on away, Syd!"

VIRGINIA met Goodnight and Carruth on the road and the three went along at a climbing walk, saying almost nothing. At noon they came into Sun yard, both men stopping at the bunkhouse. Virginia continued to the porch of the main house, but before she went inside she turned and looked back. Goodnight had a fair picture of her at the moment, sunlight strong against her, lightening her hair. She glanced directly at him, asking for his attention and holding it; her lips were strong against her skin, and half smiling. She knew how she looked to him, for she saw the reaction on his face and she thought: "I can make him forget."

Bob Carruth swung away, but he turned back and stared at her, impressed by what he saw. He cast a quick side glance at Goodnight, and then looked keenly again at Virginia. He was a smart, practical man and all this he had seen before; and knew now what it meant. He cut behind Goodnight, bent for the mess room; realizing that had he gone in front of Goodnight, spoiling the effect she was creating for him, he later would have caught hell from her. She was a woman who wanted her own way. He grinned to himself.

The effect of it rolled powerfully through Goodnight. He didn't know why and he didn't ask himself why. Simply she stood in the sunlight, rounded and tall, a woman untouched and warming before his glance and opening to him—graceful and lovely and attracted to him. It was all there in that single sunlit picture.

He heard her voice call to Carruth. "Step in a moment, Bob."

CARRUTH dragged his spurs over the yard, raking up little snakeheads of dust. He followed Virginia into the big room of the house; he took off his hat and watched her with his wary eyes. She faced him but she looked beyond him for a moment, through the door, and her eyes travelled slowly left to right. He heard somebody moving across the yard and then he knew she was watching Goodnight. The information mildly surprised him and his eyelids crept nearer as he thought about it and he studied the expression on Virginia's face with a greater interest. At this moment her attention was completely taken by what she saw. She didn't realize she was giving herself away to Carruth. He thought: "Why, she's interested in the man. It ain't entirely business."

She brought her glance back to Carruth and looked at him a thoughtful moment. "You've been here a long while,

Bob. You're the only one I can really trust."

"I knowed you when you could just hang on a horse," he said. But to himself he reflected: "She wants somethin' of me." He knew all the signals. When she wanted something of a man she was always nice; she always made the man feel she was interested in him. He had seen her do it many times.

"I need a little help," she said. "You're the only one who can do what I wish."

That was familiar too. She made a man important. And still, as clearly as he realized all this, he felt himself warm to her. After all, he had known her for many years. "Do what I can," he said.

She watched him steadily, holding him to her with her eyes. "This Lind woman has seen him. He stayed in her house last night. You know her kind."

Carruth dropped his glance and felt embarrassment; it was unseemly to be discussing it and therefore he said nothing. He was a rough-and-tumble sort of man with many sinful episodes behind him, yet he had his own notions of propriety.

"She hates me and she's trying to pull Goodnight off Sun, knowing we're fighting for our lives. She wants to cripple us." She waited until he lifted his glance again. She was unhurriedly persuasive, she appealed to his loyalty, to his partisanship, saying the one thing which she was sure would arouse him. "I think she's on Harry Ide's side of the fence. I've suspected it for a long while. We can't afford to have Goodnight go, Bob. He's the sort we need."

"What sort?"

"He's not afraid to use a gun."

"No," admitted Carruth, "he ain't afraid of that. But you got a lot more help, if you need it. I'd guess Boston Bill would take the job any time you said so."

"You know Boston Bill," she said.

He scratched the back of his head, wondering how she meant that. She observed his uncertainty and added: "If we ask a favor of him he'll move in for good. We'll never get rid of him."

He put a pointblank question at her. "Always looked to me like you encouraged the man. Don't you want him?"

She had a self-confidence that never failed to draw his reluctant admiration. She never was shaken off her feet, she never seemed to forget her own interests. She looked at him with a poker expression, with no trace of womanly confusion. "I'd never permit Bill to think that I needed anything from him. He's too sure of himself as it is. That would make him worse. If he comes to me, he comes on his hands and knees."

"Why, my Godfrey," murmured Carruth, completely astonished at her frankness. Then he had his practical doubts. "You'll never find him on his hands and knees, Virginia. Not him."

"Wait and see," she said.

"Well, now, about Goodnight—"

"Sometime today when you are together, just drop the hint that many men have slept in Rosalia's bed."

Carruth blushed. The skin of his face was too darkly sunburned to show it, but the back of his neck flamed red.

He could not meet her glance. He lowered his eyes and he was so confused that he began to reach into the wrong pockets for his tobacco. She waited for an answer. Not receiving it, she spoke more insistently. "It's true enough. Why look so odd about it?"

He said doggedly: "I don't know that it is true. Neither do you. In fact, it ain't true. She's a straight woman."

"Bob," she said, now severe, "who are you working for?"

Now he lifted his eyes, driven against the stubborn wall of his principles. "If a man spoke of any woman like that, in my presence, I'd bat his ears down to his boot tops. Any man speaking of any woman. I'll be damned if I do it. I will say furthermore, Virginia, I'm ashamed to hear it from you. You ought to go wash your mouth with soap."

She was silently and enormously angry with him. Her eyes laid threat against him and she attempted, without speaking, to bend him to her will. It was for him a bad moment, but he kept his glance steadily upon her, until her whole manner changed and softened. She shrugged her shoulders and spoke as if none of it mattered. "Forget it, Bob."

He shook his head and turned out of the room. The two other Sun men—Tap and Slab—were in the mess hall with Goodnight. Bob Carruth joined them and ate his quick dinner. Nobody said a word. Tap and Slab ate, rose and departed and Goodnight soon followed. Carruth filled his coffee cup a second time from the big pot on the table and nursed it between his hands, drinking like a Chinaman. He was greatly disturbed; he had been left with a bad feeling. Virginia was a headstrong girl, a dominating type of young woman, always cold-blooded about getting her way. That was nothing new to him; he had always known it. But this was a different thing. It wasn't clean.

It shook him. His own life was filled with its grey things, its unpleasant memories, its moments of lust and evil; still, he had always been loyal. But that loyalty, being the one good thing in him, needed something equally good to fix itself upon. Old Man Overman, for all his narrowness and his moments of bad judgment, had been a righteous soul in whom Carruth had believed; now it was different.

He brooded over his second cup of coffee. The China cook came in, irritated at Carruth's dawdling, and displayed it by the way he cleared the table. Carruth gave him a bleak stare. "Quit rattling those damned dishes, Louie." His mind had jumped over to Goodnight and he considered the man in relation to what he knew. There was something inside Virginia's head he didn't quite reach. She wanted to use Goodnight because she was afraid to ask a favor of Boston Bill. That made almost no sense to Carruth in view of what he knew about her. She never had been afraid of anything, never had doubted her ability to handle any situation. When her will was set, she was as single-minded and as tough as any man he had known; and he had known some really tough ones. It had

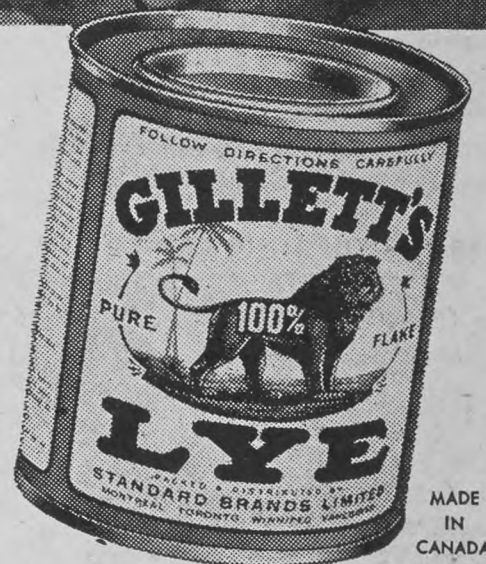
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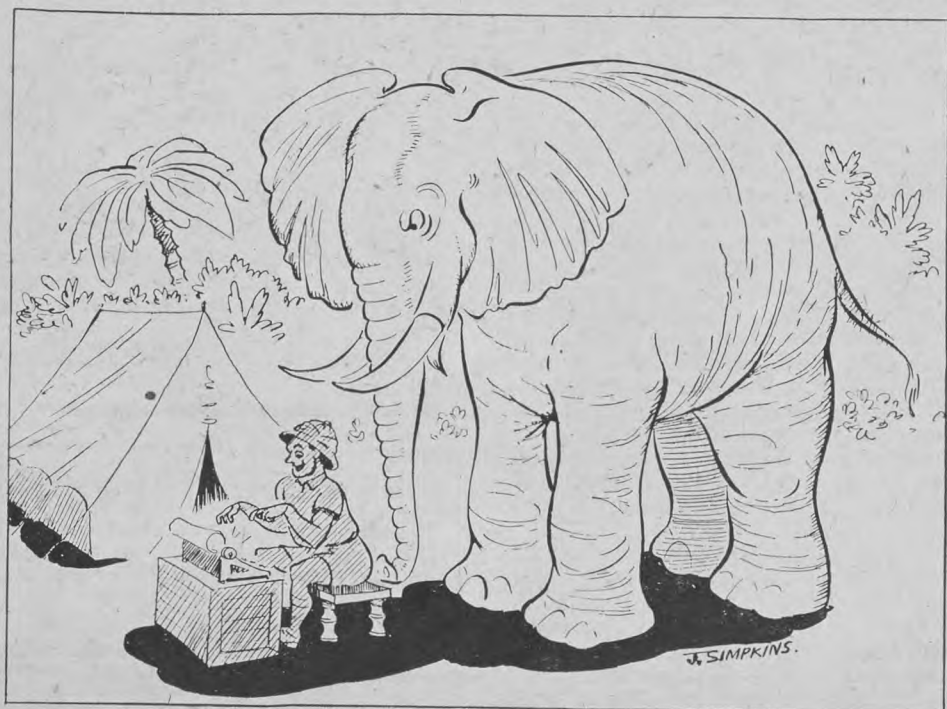


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always seemed to him that she had wanted Boston Bill. He had on many occasions noticed her eyes follow Bill around the yard and he thought she had long ago made up her mind to possess him. It was just a question of getting the man on her own terms. He still thought that.

He backed away and took a sight on the problem from a different angle. Boston Bill wanted the ranch and meant to have it, one way or another. Goodnight's presence angered Bill and the arrogant, big-nosed man had already made up his mind to get rid of Goodnight. Already had tried, Carruth guessed. That was the explanation of the shooting in Sherman City. Well, then, Virginia was spotting one man against the other—for what reason Carruth at last could not explain. But it left Goodnight in a hole.

He sighed and rose from the table and walked into the yard. Tap and Slab sat on the shady side of the bunkhouse. Goodnight had gone on to the corral. Carruth crossed the yard toward him, shaping up a smoke as he travelled. He stopped at the corral, stretching his lips back from his teeth as he inhaled the cigarette smoke.

"Frank," he said, "I'm never a hand to like another man very much. Not my style. But I like you as well as any. Here's my advice, which I wouldn't bother to give anybody else. Get off the ranch."

Goodnight stared beyond Carruth, at the green wave of trees flowing down the hill. He had his eyes almost shut and daylight danced in them. Heat, burned down upon the clearing and flashed on the panes of the main house; the air lay thin and dry and the smell of dust and pitch was everywhere. "I know," said Goodnight.

"Doubt if you do."

Goodnight looked down at Carruth. "She's afraid of Boston Bill."

Carruth wanted to say something about that. He saw that she had gotten into Goodnight. The glance she had given him, the picture she had made for him as she stood on the porch, had done the trick. He tried to frame something in his mind that would make it clear to the tall man, but his loyalty stopped him. All he could say was: "You ain't got a high card in your hand."

"Always had luck in the draw. Anyhow, it's too late to leave."

"Why?" asked Carruth. But in a moment he heard the first advance echoes of a party coming down the hill. He said, "You got good ears," and swung about, waiting. It was Boston Bill's outfit, he guessed, and a big one from the sound it made. A man's "Hyee" came on ahead, quite loud in the heat-stretched air, and a moment later the party broke out of timber into the yard, and Boston Bill at the head.

He was always a smart one. His glance swept the yard, saw Tap and Slab, saw Carruth, and came to a full-centered aim on Goodnight. For a moment it appeared he would ride straight on at Goodnight. His expression and the position of his body telegraphed the intention, but in another instant Virginia came to the porch, calling his interest to her. He dropped to the ground, high and confident as he walked to the porch. The two went inside the house.

The rest got down—there were twelve in the bunch—and scattered around the yard, soon dropping into the dusty shade, soon smoking or soon falling back for quick catnaps. Carruth drew out the last smoke of his cigarette and spoke, not looking at Goodnight: "This is it. Too late for you."

Virginia came to the doorway. "Frank," she said, "will you come here please?"

"Showdown," murmured Carruth. "He's made up his mind."

"He made it up the other day," answered Goodnight, and walked over the yard.

He found Virginia standing in a corner of the room when he reached it; he found Boston Bill swung around, waiting for him to come. Boston Bill's fair face showed the brittle scruffing of sunlight and the deeper flush of an anger produced by some previous argument with the girl. He was very watchful, he was on edge, and Goodnight got the clear impression that Boston Bill expected trouble to break. There was a round-

topped centre table near Bill; he had his left hip against it, the top of his holstered gun rubbing against it, and he had his hand dropped on the table, close by the gun's butt.

Virginia said in her calm, self-certain way: "Bill's been doing some talking. Perhaps you ought to listen to it."

Boston Bill said: "I'm not repeating myself to strangers, Virginia."

"This man," said Virginia, "is foreman of Sun."

"Is he?" murmured Boston Bill. "I don't recognize the title. I'm talking to you, not to him."

"You'll deal with him," she said.

"No," said Boston Bill, "I'd do nothing with him. You're a clever girl, Virginia. You've put him up as a dummy between us. I won't waste my time. You're the one who says yes or no."

"Not unless my foreman agrees," she said. "Talk to my foreman, Bill."

She treated him coolly. She stood away from him, throwing her will against his will. Goodnight had no knowledge of the game being played between them; it went on beneath the surface, the two of them violently struggling for some kind of control. Boston Bill's face showed a growing stubbornness. His cheek muscles grew bunched and his mouth lay tight beneath the spectacular arch of his nose. Goodnight remained still, studying the man, not yet certain of the other's nerve. The scene could end here if Boston Bill had as much brutality in him as he had ambition. All Bill had to do was lift his voice, bring in part of his crew—and the whole thing would be over.

But the man dallied with his thoughts and presently Goodnight noticed the girl's expression shade away into something that looked like triumph. She thought she had Bill beaten.

Boston Bill made up his mind and turned on Goodnight. "I'm not talkin' to you, I'm telling you. My outfit camps here and I'll do what Virginia can't do—which is fight for this place against Harry Ide. There's no room for you. Ride on."

The girl's expression again grew solid and resisting. She put her glance on Goodnight, waiting for him to speak. This was why she had hired him—for just this moment. What was he supposed to do? He turned his head slightly, noticing now that Bob Carruth had come to the door of the room. Goodnight murmured: "Step in and shut the door, Bob."

Carruth moved in and pushed the door behind him. Boston Bill's head lifted and he threw an irritated glance at Carruth; the next instant his attention rushed back to Goodnight.

"I notice," said Goodnight, "you're left-handed."

Boston Bill studied the remark, suspicious of it, fast-thinking of it. He nodded slightly.

"It is the second time I have noticed it," said Goodnight.

Boston Bill showed a small, passing puzzlement. He said: "What of it?" But he was keyed up, giving Goodnight the full weight of his thoughts. The man faced him, quietly, expressionlessly—meaning everything or meaning nothing. "No use of this going on," Goodnight said. "You have made up your mind about me. I have done the same about you. This is the place to have it done. Back away from the table and give yourself room to draw."

Boston Bill kept his head still; his eyes rolled aside, catching view of Carruth, and rolled back to meet Goodnight. He said softly: "You've got an extra man."

Goodnight threw an order over his shoulder. "Step outside, Bob."

He listened to the door's opening and its closing. The girl's face was intent, with one small line showing on her forehead. She had changed her attention to Boston Bill; she was watching him with an engrossed interest, without sympathy and without any feeling that Goodnight could observe. She was probably wondering—as he himself still wondered—if Boston Bill's nerves would hold or fail.

Boston Bill smiled a starved, wintry smile. "My outfit's outside. How far do you think you could get?"

"You talk too much," said Goodnight. "Step back and draw."

"I told you before," said Boston Bill, "I pick my fights when I please."

"Better pick this one now," said Goodnight.

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"Probably," said Boston Bill, very cool, "you can handle a gun faster than I. My impression is you've had more training at it. I'd be foolish to step into that, wouldn't I? I'm not drawing. If you like to shoot your ducks on the ground, go ahead."

"I will," said Goodnight.

"I doubt it," answered Boston Bill. "Your kind never likes to shoot without getting the other man to draw first. It is just a way you justify a shooting—a convention that is supposed to make everything fair and square. I'll not supply you with the excuse."

"You guess wrong," said Goodnight. "That rule applies to men standing equal. It doesn't cover a man that stood on the right side of a hotel window and shot left-handed through the glass at a man asleep on a bed."

The sharp glitter of angry, tight amusement died out of Boston Bill's face. He stood grave and indrawn; he stood like a man hollowed out. He looked at the girl. He said in queer voice: "You brought this on. Do you like it?" Then he pulled his attention back to Goodnight and strain narrowed his face and had nothing more to say.

It was the girl who broke the tension by coming forward until she was between the two. She turned to Boston Bill. "He would kill you. Don't you see it on his face?" She swung quickly to Goodnight. "I don't want a shooting."

"Out of your hands," said Goodnight.

"No. Bill will not take charge here. You are still foreman. You see, Frank, I still have one weapon he's afraid of. The hill ranches are friendly to him, but they are all people who came here with my father. My word would turn them against Bill. He knows that. If he moves into Sun without my authority he'll have no help from the hills."

"Nothing to do with the present moment," said Goodnight. "Stand aside. I want this settled."

"I want nothing to happen here," she said.

He considered her and found no answer. She had hired him to protect her against Boston Bill; she was now protecting Boston Bill. It made everything complicated. He had known since day-break that Boston Bill had shot Niles and that knowledge gave him his clear line of action. This was the time to settle it, for if Boston Bill walked out of the door alive, it would only be to give a signal that would set the rest of the crowd against him. He would be trapped. Still, the girl wanted no shooting. In addition, he no longer knew where she stood.

"There's no necessity of my staying on Sun any longer," he said. "You can use this man for your work."

He backed to the door, noting the change on her face. Disturbance came and unsettled her perfect assurance. "I don't want you to go."

"Then you should not have interfered. I'm riding off the place. But I won't be riding far and I'll make a point of meeting you, my friend." He said the last of it to Boston Bill, opening the door as he talked. The girl shook her

head and for the first time he saw helplessness come to her.

"I didn't think," she said, "you'd run."

"You should not have interfered," he repeated. "Or maybe you had better make up your mind what you want." He closed the door as he stepped to the porch. He said to Carruth waiting there, "Stick right here until I reach my horse. I'm leaving."

"He froze you out?" murmured Carruth, not quite believing it.

Goodnight paused and threw him a black glance. "We'll see," he said. He went down the steps, the men of Boston Bill's crowd watching him from their scattered places along the yard. He made no attempt to hurry; he cut behind the bunkhouse to his horse and rose to the saddle and rode back over the yard. They were still watching, and one man had risen and started for the house. He circled the mess hall and faced the trail. As he reached the first edge of timber—the trail rising and curling before him—he heard Boston Bill's voice rush over the yard.

"Come on—come on."

He went up the slope in a slow run, with the scurry and scuff of men and horses coming off the yard, and the murmuring of men's voices growing. He reached a bend of the trail and ran around it, and faced another sharp rise. His horse fell to a walk on this grade but he dug in his spurs and made it go. The trees softened the sounds rising from the lower level.

BOSTON Bill rushed from the front door, yelling at his outfit; and all of them sprang up from their sleepy reclining and in a moment were gone, leaving behind the slow-setting streamers of dust in the still air. Slab and Tap remained by the bunkhouse, astonished at the unexpected action and not quite certain of what had happened. Bob Carruth was on the porch, caught in the swift play. Virginia had rushed out on the heels of Bill, had run over the yard after him. She had kept calling to him; she had tried to catch his arm as he reached his horse. He had swung around her, his left stirrup grazing her as he rushed on. Virginia, standing in the heavy yellow dust, cursed him until he was out of sight.

Bob Carruth watched her turn and come back to him. He saw the fury that blackened her eyes and pulled the blood from her face until it was dead white. She breathed heavily and she gave him a bitter, killing glance—hating him because he was the only thing near her to receive her temper. He stood still, knowing this girl's willfulness but shocked at the depth of rage she showed. Violence changed her until she was no longer pretty, no longer admirable. He sighed and shook his head.

"You played hell when you brought those two together."

"I should have let Frank shoot him! I should have let that happen!"

"One of 'em," said Carruth, "is damned soon goin' to get shot." She



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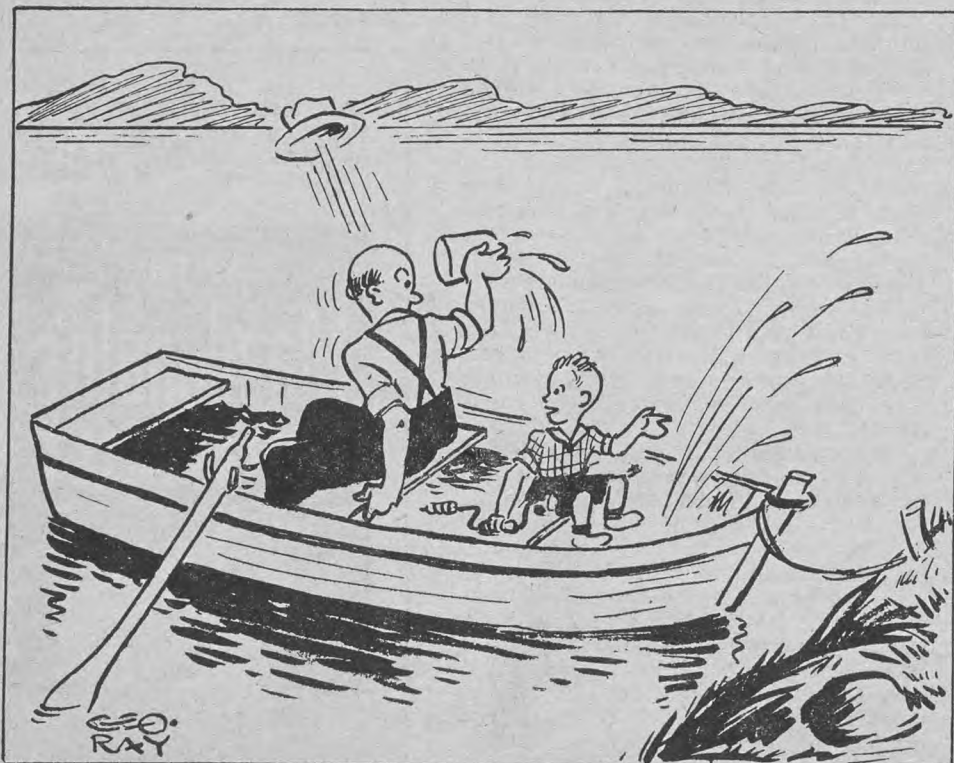
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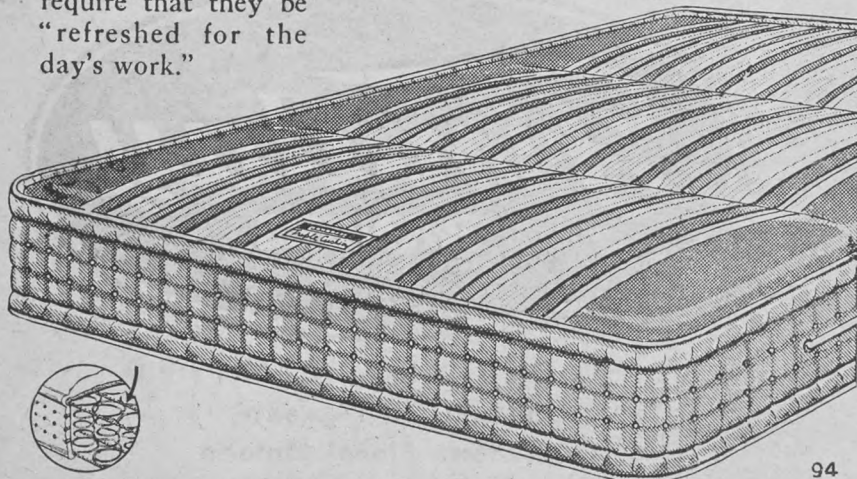
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made him sour and embittered. "Comes of you fiddlin' with two men. No sense—no sense at all. You think you're God to make men come together and back up like you want? What in hell did you expect?"

"The dog," she said in a shaking, husky voice. "The dog!"

"Which one you talkin' about now?"

"He was afraid of Goodnight. He smiled and tried to cover it, but he was afraid of his life. I saved him, and then he betrayed me the moment Goodnight left. He's yellow, Carruth, and he's dirty."

"That's something you should of figured before you started this business. Friend Goodnight's goin' to get killed." He drew his lips back from his heavy white teeth. "What you think of that? What you think of your schemin' now?"

She wilted before his eyes. Her shoulders dropped and the life went out of her face. She turned from him and walked over to her horse. She stood a moment beside the horse and he saw that she was crying. He had not seen her cry before and therefore he knew she was hurt, and this pleased him and he silently wished that the hurt would stay on; for by now he had lost all



his loyalty to her and saw her as a cold woman whose scheming was about to cause the death of a man. She went up to the saddle and looked at him. "That can't happen," she said. "I won't let it."

"You'll play hell," he told her. She was out in the meadow, running north, and he shouted it at her again. "You'll play hell!"

He kept his eyes on her as he walked back to the bunkhouse. Tap and Slab never said a word; all this had rolled over them like a wave of water and they had not yet pulled clear of it. She was, Carruth decided, going up to Ned Tower's place to have him spread the news to the hill people. Maybe that would work, maybe it would be too late. He turned to Slab. "Take my long-legged buckskin and go down to Sherman City. You tell Rosalia Lind what's happened."

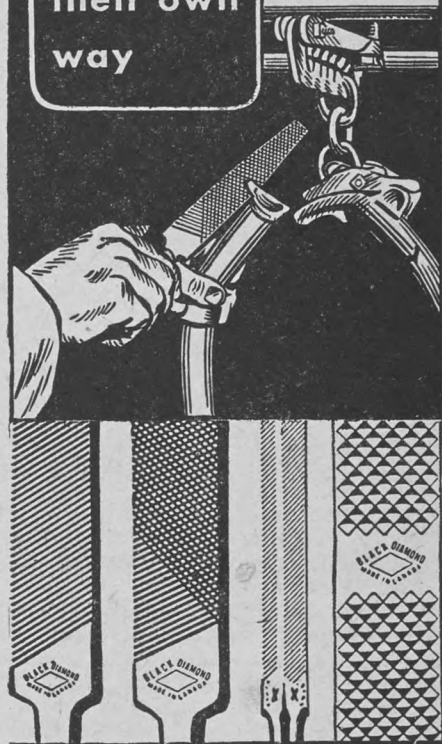
"Whut'll she do about it?" asked Slab. "Go on—go on!"

He went into the bunkhouse and found his pipe and he filled it and lighted it and found some comfort in the heavy smoke. He came back to the yard, standing beside Tap. Tap said something but he paid no attention to it, in fact he really never heard it. The point was, he decided, Virginia had found out at the last moment it was Goodnight she wanted, not Boston Bill. She apparently hadn't known it before. She had hauled the two men together so she could compare them, maybe have them ram each other all over the place to prove what they were to her. Then she had got trapped. The wrong man had won and she had just discovered it.

He shook his head, a little bit sick of the thing, and he went over to his own horse and got aboard. As soon as he hit the saddle he felt somewhat more hopeful; he'd follow after Boston Bill and maybe get a line on what was happening; maybe manoeuvre around so that he could do Goodnight a useful turn in a pinch. Going into the timbered hill trail he remembered Virginia's cursing; that had been a rock-bottom display of what she was. He had never seen a woman so thoroughly turn herself inside out.

"That damned Goodnight," he thought soberly, "thinks she's something

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particular. If he pulls out of this he might marry her."

SLAB was a man neither very thoughtful nor very bright and therefore when he was given an order his small mind closed down upon it and it became the law of his life until he had fulfilled it. He never asked questions and he never stopped to debate the wisdom of what he was told to do. Simply, he took his orders and set forth upon their performance. Had Bob Carruth told him to ride his horse into the middle of the creek and remain there, Slab would have done so in full confidence that Carruth had a good reason for asking it.

So, he set out at full tilt for Sherman City and reached the town with his horse dead-beat and himself pretty well pounded up. He whirled before Rosalia's house, dropped to the ground and ran to the door. When the girl appeared, Slab said:—

"Carruth told me to tell you that this Goodnight is in a jackpot. He got cross-wise of Boston Bill. They had an argument on the ranch. Goodnight got to his horse and jumped for timber with Bill and nine-ten of Bill's bunch after him. They're in the hills now, somewhere."

Rosalia said: "Why did Carruth want me to know that?"

Slab opened his mouth to speak, and found nothing to say. He closed his mouth and he searched himself for answer, but the searching produced nothing. He had been told to come here and deliver his message. That was all. Nowhere along the hard ride had he given an instant's thought to the reason behind the message. He spread out his hands before her and he murmured: "Damned if I know. I just told you what I was supposed to tell you." He turned back, got his horse and led it up to the Trail. He stepped inside the saloon and wigwagged for a drink. He took his drink and he murmured, "Ah," and eased himself against the bar. He said aloud: "I bet that's the fastest that trip's ever been rode."

"What for?" asked the barkeep.

"Don't know," confessed Slab. "But it sure was a fast ride."

ROSALIA stood on the porch, watching Slab go to the saloon. Gabe drifted from the alley and said: "Anything important?"

"No," she said and went into the house, wondering why Bob Carruth had thought of her. She thought of Carruth for a little while, knowing the man's toughness. She said to herself: "He would never lift a hand to help any man, unless he liked the man well. Therefore he must have come to like Frank. Nor would he have bothered to send a message to me unless Frank was in genuine trouble."

It was a compliment, from Carruth. It was a warning, too, that things had gone bad for Goodnight. She closed the front door and turned and put her shoulders against it. She looked across the room at the wall, grave and deeply troubled. Goodnight was clearly before her; she saw him, the shape of his body and the tone of his voice and the things which tormented him. She thought: "I could help him. I could send men up there to fight for him."

But she came slowly to her painful answer. She had given him more than she had given any other man. The rest of it was up to him. She could not give more. He had gone into the hills of his



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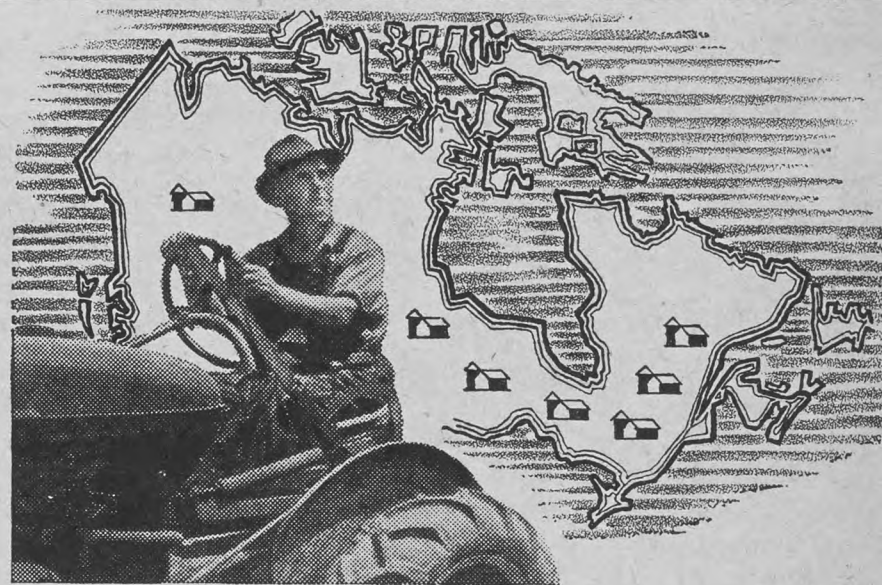
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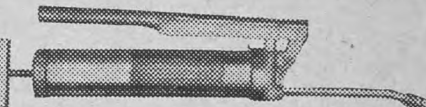
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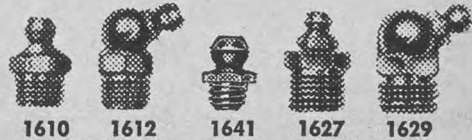


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own free will. He would have to come out of the hills the same way. Perhaps he would never come back; perhaps he had not wanted to come back. If he came back she would be here; if he wanted her, she would be here.

"He went there because he wanted to. He will come back if he wants to. He will live or he will die. If I helped him now he would resent it, or be in debt to me. I will do nothing. It is up to him."

She remained still, inwardly protesting at her own decision; but her will was strong, and held her fast.

GOODNIGHT had a quarter-mile lead on Boston Bill's men. He heard the sound of their pursuit come steadily behind him but at the end of a twenty-minute run he thought he had increased his lead. One horse and one man made better time than a crowd.

He stayed with the main trail upward and it took him presently to one of the many small and narrow meadows creasing these hills; he saw nothing on the meadow and ran across it into farther timber. The main trail continued upward again but at this point he wheeled aside, into the timber, and paralleled the meadow until he had reached its far end. Here, sheltered by the trees, he gave his horse a blow and watched the open area over which he had recently come.

Boston Bill broke over it first, two other men closely behind him. These three crossed and disappeared and it was a full minute before the rest of the group came plugging along. This last group halted and seemed to be talking. Presently one of the men who had been with Boston Bill rode back and said something, whereupon the party moved onward at a jaded walk and entered the trees.

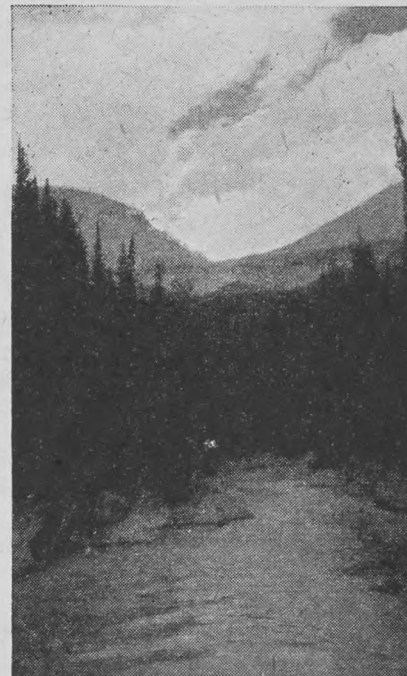
The timber around Goodnight was old first-growth pine, massive at the butt and rising in flawless line toward a mass of top covering which made a solid umbrella against sunlight; there was little underbrush and at certain angles he was able to look a hundred or two hundred yards away. The sound of Bill's men faded in gradually diminishing echoes until the hot silence of the hills lay fast upon everything, until the breathing of his own horse seemed loud. It would be a matter of time, of course, until Bill would backtrack and eventually discover his solitary set of tracks on the spongy humus. Considering it, he set his course steadily east, toward the Owlhorns' heights. Up there the country would be more greatly broken and thus afford better shelter.

He knew none of this land, yet he had no concern. All his days from boyhood onward had been a pattern of hills and desert, of silence and heat and cold of strange voices speaking out of night's pit and pale far images in the sun glare. He could say of himself that his proper home was wherever night found him, that his accustomed hearth was the rim of a campfire. Never in all his travelling had he felt the need of more than this; and never, when sleeping inside some town upon the trail, had he ceased to wish for the trail.

Far away was one starved echo. Riding, he listened for its repetition and heard no more. The red-barked trees ran solemnly before him and somewhere high above the arch of boughs afternoon blazed; here the air was blue-shadowed and still. He came presently upon the relic of an ancient wagon road, its twin ruts wiggling before him; and later struck the fallen-in wreckage of a log-and-shake cabin. Near it was a square patch of ground enclosed by stakes; and centered in the patch was the mark of a grave, its headboard, once white, lying rotten upon the earth. A pine stood hard by and when he raised his eyes he saw an axe imbedded in the bark. Once, long ago, some man had driven it full into the wood and had walked away, and had never returned.



By degrees the country roughened and the pines turned smaller and ravines began to come down toward him. He held to the crest of the ridges as long as possible, then dropped into the ravines, crossed over and rose to the next ridge. Near sunset the trees momentarily gave way and he faced a creek running quickly over its stones. Beyond the creek the trees again marched toward the heights.



He stayed within shelter, long watching the upper and lower reaches of the creek and the timber beyond it. When he was satisfied he rode to water's edge, let the horse have a long drink, and forded. Twenty yards inside the timber he came to a trail looping stiffly up the side of the mountain and, since there was no other way, he took this.

He rose with the short switchback courses, higher and higher along the edge of the cliff as daylight slowly faded out of the sky. He arrived at last to a levelling-off place, gave the glen below him one last look, and moved over an area roughened by some ancient geological upheaval. He still pointed towards the summits of the Owlhorns, but within fifteen minutes the trail brought him to a complete standstill at the edge of a precipice running three hundred feet or more downward into a canyon whose bottom was now covered by night shadows.

The land was deceptive. He had marched out of one canyon to these heights, and now faced another canyon. He had worked himself to a kind of island of height. Night wind began to flow off the Owlhorn summits, soft but cold, and as he watched the canyon he saw the tide of blackness slowly drown out its bottom. A pathway dropped along the face of the precipice at a breakneck angle, running lower and lower until he could no longer see its course. From the look of it, he judged it had not been recently used and possibly was nothing more than a foothold cut out by a deer.

There was undoubtedly a better way of moving off this ridge. One end of it was probably anchored against the Owlhorns, providing him a level route; but it grew darker and he wished a sheltered spot for his camp. So, not altogether free of doubt, he tipped the horse over the brink of the precipice into the descending ledge.

The cliff was rock and earth, with some vegetation clinging to it; the trail was no more than three or four feet wide, sometimes tightening against the cliff and causing him to foul his leg against the outcrop of rock. The horse was both tired and doubtful and frequently stopped, to be pressed on by a touch of the spurs. The pathway at places pitched downward so steeply that the horse's front feet slid along the loose rubble, and the farther it dropped the blacker it became until there was no view above Goodnight and no view below.

He had gone a hundred feet when the horse stopped and would no longer advance. He bent forward in the saddle and fixed his eyes upon the ground before him until he thought he saw the continuation of trail, and he urged the horse again; the horse gathered its feet

close together and began to wind about, gingerly and slowly in little mincing shifts until it had reversed itself. Then, pointed downward still, it moved on. Looking directly behind him, Goodnight vaguely saw the turn-around; the trail made its switchback at this point.

When he realized his eyes had failed him he felt a twinge of uncertainty. He was now less than halfway down a cliff whose total drop was something like three hundred feet. He grew anxious to have the passage done with but he let the reins remain slack, trusting the horse; and when the horse again stopped he made no effort to push it. He bent again in the saddle, again seeing nothing; for he was now surrounded and pressed upon by the full weight of the inky canyon shadows. He waited for the horse to move; he waited a full two minutes and then, knowing that something stood in the way, he slid carefully to the ground—crowded between horse and canyon wall—and moved forward. He got down on his hands and knees and used his hands for exploring; he felt the slide of rock and soil which, coming from the cliff, blocked the trail entirely. He stood up, running his arm forward, trying to judge the depth of the barrier. Some wet spot in the cliff had given way, coming down in a short slide and landing on this ledge.

It was a new slide, the dirt not yet packed firm. He ran his hands shovel-like into the dirt and moved it; and he crouched, and began to throw the debris below him. He heard the rocks strike long afterwards down on the canyon floor. He was still considerably up in the air. He thought: "If this thing goes very far I'll be here all night," and he sat idle a moment and considered backing the horse to the turn-around and retracing his way to the top of the ridge. He had a good horse and full confidence in him; yet at this hour, with the animal jaded from a hard ride and with the going altogether blind, he discarded the thought, settled on his haunches and began to shovel the slide away with his fingers.

It took him half an hour to clear the barrier and when he got up again, his fingers bruised and raw, he estimated he had scooped aside a pile of dirt five feet long and three feet wide. Catching up the reins, he led the horse cautiously forward. Fifty feet brought him to an uncertain spot, and he stopped and crawled on his hands and knees, exploring until he discovered he had reached another turn-around. He let the horse take its time making the swing, and again descended.

There was water flowing at the bottom of the canyon; the cold dampness of it began to rise to him and the sound of it strengthened. He had been on this descent an hour or thereabouts and he felt the strain of it, and thought he heard other echoes above him. He stopped, listening for them through the washing murmur of the water and received nothing satisfactory; but he was

dissatisfied and stood longer still, reaching for his tobacco and rolling a cigarette. He had a match in his hand, ready to light, when he caught himself. He put the match away, nursing the dry smoke in his mouth, and moved ahead.

THERE had been, through all this tedious march of the afternoon and twilight, a memory. It came forward strongly now in his sightless night—the recollection of Virginia Overman, beautifully poised in Sun's ranch house, her eyes upon him, needing his support against Boston Bill and yet too womanly to permit him to draw a gun against Bill. She had not understood how bad a decision she had made in stopping the showdown. At that moment he had been on equal terms with Bill. Afterwards, with the weight of Bill's crew against him, he was against odds. Bill would use those odds against him. She had not understood that, still believing perhaps that Bill was an honorable man. Yet even with that bad decision against her, he remembered her fairness and her need of him—and the soft side of her nature which would not permit a killing. It was a thought that buoyed him on this black, downward grade.

He had been walking with a short forward step, surer of himself as the bottom of the canyon appeared nearer; he took one more step and, without warning, found no trail to meet him and lost his balance and dropped forward into emptiness.

He had been lightly holding the reins. As he lost his balance his grip tightened upon them and as he swung forward, one foot still on the trail, the weight of his fall struck hard on reins and horse; the horse took that pressure with a startled upward fling of its head, hauling Goodnight upward. He whipped himself around, grasping the reins with his free hand and, with this double hold, he swung outward into space and downward. His other foot slid off the trail and he dropped until his breast scraped the edge of the rocks; the horse alarmed, moved backward, this action dragging Goodnight along the sharp edge of the rocks and sawing at his ribs. He got one elbow hooked over the brim; he let go the reins completely and anchored himself now with both elbows. He hung there, feeling a moment's sharp pain in his chest, his feet digging against the wall of the canyon and finding poor support. He kicked at the wall with his toes; he moved them up and down and found lodgement for one toe. He lifted himself gently, his elbows taking the strain from the insecure foothold, and he gathered his strength, made an upward lunge and crawled back to the trail and rolled and sat upright.

He still had the cigarette in his teeth, the scattered grains of tobacco half down his throat. He strangled on them and his coughing reminded him of the beating he had taken in his chest. He got to his feet. He said: "Coley," calling the horse. He couldn't see the horse and he took a step onward until he brushed its muzzle. He ran a hand back along

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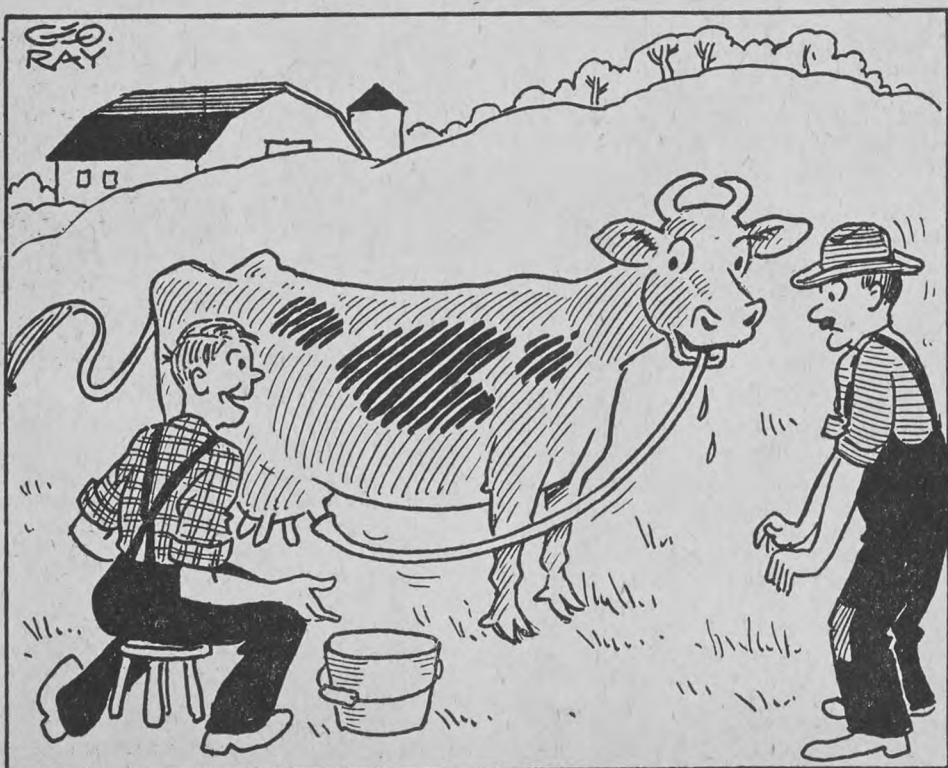
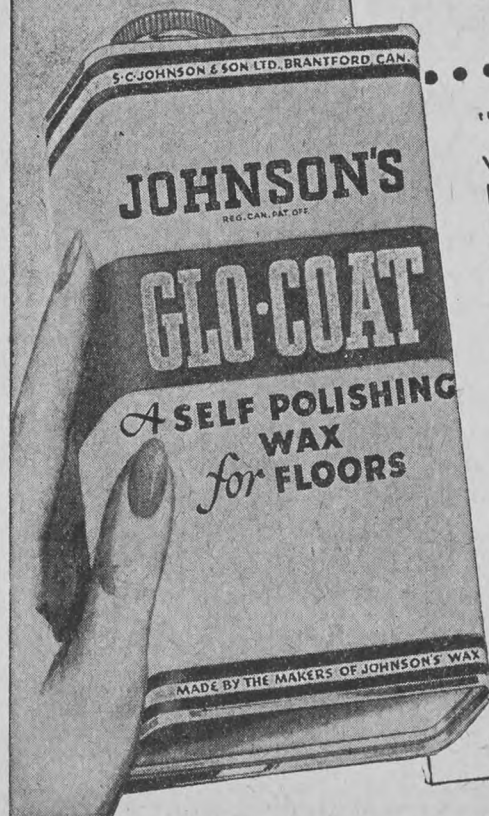
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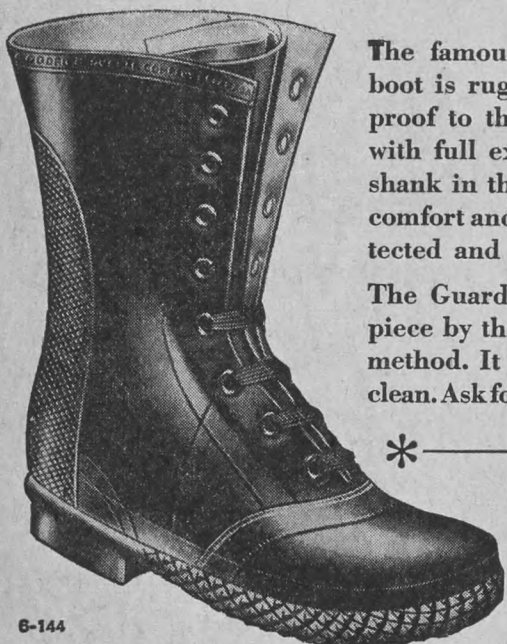
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its neck. He said: "All right—all right. Stand fast." He drew a deep breath and was relieved.

He walked back to the break in the trail, shuffling his feet until he reached the edge; he got down on his knees and stretched his arm outward and touched nothing. He sat back a moment, drawing a long breath, and then he flattened on his belly and inched forward until he teetered on the edge of the break like a balanced board, and reached out again, and again touched nothing. That was a three-foot stretch; the gap was wider.

He found a couple of small rocks on the trail and threw one of them a distance which he judged to be slightly more than three feet; it fell short of its mark, dropping in little bouncing strikes all the way to the canyon floor. He threw the second rock a farther distance and heard it land on the trail. That made it somewhere between five and eight feet.

He sat back, defeated and full of exasperation. He drew in a huge breath and let it go. He got another handful of small rocks and dropped them one by one over the edge of the trail, listening to the strike they made against the canyon bottom. He tried to visualize the distance but had no great luck. As a final resort he pulled out a match, struck it and cupped his hands so that the light would shine upon the break in the trail.

It was better than a ten-foot gap. But he saw something else which gave him heart: the break had taken away the outer half of the pathway, leaving an inner shelf of about two feet or so in width snuggled against the cliff's face. He had walked along the middle of the trail and had come upon the break; had he been tight against the cliff face he would have remained on firm ground.

The light died out, leaving him hopeful in one respect: he himself could cross over. What troubled him was the situation of the horse. He doubted if it would stand on this narrow ledge all during the night without attempting to turn and so come to disaster. That meant a try at the ledge. He figured the girth of the horse against the width of the ledge and came to the conclusion that, with some luck, the passage might be accomplished.

He rose and tackled the ledge, testing it for footing. He walked back, running his hands along the face. He struck an outstanding rock and stopped and dug it out and threw it into the pit; he crawled back to the horse, removed the saddle and carried it over the break, there dumping it, and came back again to catch up the reins. He paused a moment, thinking of the depth below. It seemed to be a full fifty-foot fall. "Well, Coley," he said, "this is the jackpot." He led the horse forward, holding to the extreme end of the reins. He got halfway out upon the ledge, and pulled.

Coley was a sure-footed brute, made wary by his experiences. He came up to the break and stopped there. Goodnight stepped against Coley's head, using pressure to shift the horse nearer the wall; he pulled again, moving Coley tentatively on. Coley's foot struck the edge and slipped and he drew back and emitted a blast of air. He stood fast. Goodnight came up to him and laid a hand on his neck. "Coley," he said, "you got to gamble once in a while. Don't be a damned fool." He backed onto the ledge, hauling suggestively at the reins. He pulled on them, let the pressure go, and pulled again.

Coley took another step and hit firm footing and came forward. Goodnight held the reins tight until he figured Coley's hind feet had reached the ledge. Then he let them sag so that the horse might drop its head and see the trail. Coley thrust his muzzle downward, breathing against the ground. He placed a forefoot ahead like a weary old man unsure of his bones, and advanced the other front foot. Goodnight heard Coley's flanks drag along the rock face and he spoke gently, to check Coley from panic. "You're halfway. Stretch out your neck and you're across." Suddenly Coley's near hind foot, too near the edge, slid downward and the horse made a lunge that carried it all the way across to firm ground. The surge caught Goodnight off balance. He jumped away, stumbled and fell. He got up again and went forward. Coley had stopped and was trembling.

"You think you're the only one?" said Goodnight.

He found the saddle and slapped it on and made a loose tie. Wind scoured down the canyon, its coldness beginning to reach him. But his face was sticky and when he took off his hat sweat dropped over his face and left its salt on his lips. He led the horse downward, taking his steps with caution. Hunger rolled around his belly, growling, and he was very tired. Somewhere in the night new sounds lifted and fell away and lifted again, barely clearing the increasing rush of the river. He halted, waiting and listening. Somewhere men were talking and as he swung his head the sound came clearest from above him. He could see nothing, but the murmur broke and ran on in idle fragments, and presently died.

He thought: "Echoes from the river," and moved cautiously downgrade again.

The trail played out through gravel and chunks of rocks to the river's edge. The river's surface had a thin glow. The gravel churned under his feet and his horse stumbled and stopped, dead-beat. He pulled it on, coming to better footing. Here he unsaddled again, put hobbles on the horse and rolled up in the saddle blanket. He felt a continuing ache in his chest but he was almost instantly asleep.

NOT more than five minutes after he crossed the small creek in the earlier afternoon, Jack Babb and Monroe Mullans came up the creek on a scout, having been sent out by Boston Bill. They cut the fresh damp tracks of Goodnight's horse on the trail. Babb said: "I'll wait here. You go back and bring 'em up."

Boston Bill arrived with the main party an hour afterwards and immediately pushed uptrail, following Goodnight's clear prints. Darkness caught them on the switchback, whereupon Babb suggested retreating to better ground for night camp.

"We'll over-ride the place where he turns off and smear up his tracks with ours."

Boston Bill got down from his horse and led it forward. "He started up the switchback," he said. "There's no place for him to turn aside, therefore he followed this trail to the top of the ridge." He went on. When he reached the summit he stopped to think it out, Babb again suggesting camp.

"Everybody's tired. So's the horses. No supper and no breakfast in sight."

Boston Bill got down on the ground and lighted a match. He rose and walked forward until the match went out, and came back to his horse. "He's still going straight ahead. He doesn't know the country and he's pushing for the summit."

"He might break off the trail," said Babb. "Remember, he did it below at the meadow."

"Break off where?" asked Boston Bill. "You couldn't buck through this stuff anywhere else. He's in a hurry. He'll take the shortest way."

He led them forward and at occasional intervals he dismounted and tried another match; and so came, late at night, to the rim of the canyon. He lighted a match here and found Goodnight's prints, and snapped out the match at once. "Down there. Come ahead."

"The hell we do," said Babb. "That's the old Glory Mine's pack path. They used burros. But it's been ten years ago. You get halfway down and find a block and how you goin' to get back up?"

"He went down," said Boston Bill. "By daylight."

"Couldn't have," said somebody else. "He ain't more than two hours ahead of us, and it's been dark longer than that. He had to take it in dark."

"You see?" pointed out Bill. "Come ahead."

"I've seen that thing by daylight," objected Babb. "In fact I got caught on it last year. There's a break, fifty or sixty feet from the bottom. It is nothin' to fool with. I'm not tryin' it."

"He's there," said Boston Bill impatiently.

"Then he'll be there in the mornin'."

"No," contradicted Bill, "he'll get away from us."

"I don't guess you know this part of the country," stated Babb. "That canyon has got damned steep sides. He can't find a way out by dark. Except

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by goin' downgrade with the creek. But that's tough too. If he's there, which I do doubt, he's sleepin' off a bad day. We'll catch up with him in the mornin'."

Boston Bill was dissatisfied. "Where else could he be?"

"I think he came here, saw the trouble in front of him, and backtracked. Maybe on this ridge. There ain't nothin' here except dog-wallop in' big chunks of up-and-down land, hard to ride in. He couldn't do much at night with it. He ain't far away. May even be near enough to hear us. Wait for daylight."

Boston Bill stood silent, unwilling to let go his hopes for a quick capture. The desire drove him badly and it was with poor grace that he surrendered. "All right. Camp here. But I want somebody to go back downgrade and cut over to close the mouth of the canyon. You do that, Jack. Take Mullans."

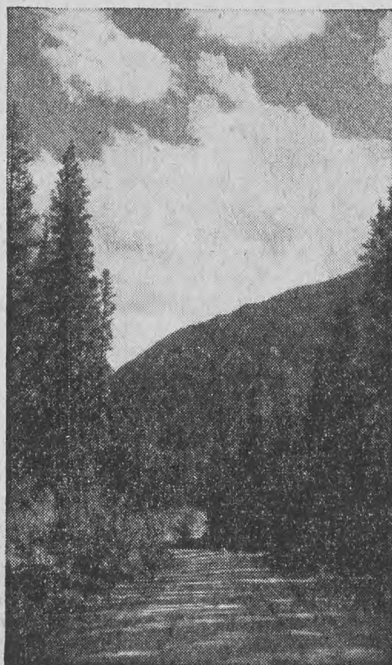
"Oh, my Godfrey," said Babb. He wanted to refuse it and would have refused if Boston Bill had not suddenly cut in with his biting voice: "I shouldn't think you'd worry about him that much. He's just one man."

Babb grumbled, "Come on, Monroe," and turned away with Mullans, over the rough top of the ridge and down the switchback. When they got to better ground Babb halted. "This is far enough. We can make the canyon in an hour, soon as it gets light." The pair made cold camp.

WHAT woke Goodnight around midnight was a stone grinding in his back. He rolled away from it and slept again, but the memory of it stayed with him so that he was never quite asleep, and woke again to find he had other stones beneath him. He rose and carried his blanket to better ground. Deep in the chilly black he rolled a cigarette and smoked it through, and tried to rest. Then he got to thinking of the sound which had been like the sound of voices on the top of the rim, and so he watchfully awaited the first dismal streaks of light seeping into the canyon. He sat up, looking for the horse, and found it strayed upstream in pursuit of grass. Beyond the horse was a black, loose outline which, as the shadows began to grow lighter, turned into some kind of a building. He rose and went forward to have a look at it. He passed through a doorway into a loose board building and he found the remains of bunk frames around the walls. He thought disgustedly of the poor sleeping he had had on the gravel, and turned out of the house to bring up his horse. It was grey dawn then and he heard a clean, distinct shout, hollowly echoing. Looking upward he discovered a man standing at the lip of the trail, four hundred feet away. The man brought a rifle sharply to his shoulder and fired, the bullet striking wide of Goodnight's position.

The horse was twenty feet from him at the moment, now flinging up its head at the sound. Goodnight made a run for it, unsnapped the hobbles and led it back toward the house. A bullet broke ground ahead of him, and a third one splintered the side of the house wall as he jumped through the doorway, leading the horse inside. He made one more run to seize up his saddle and blanket.

(To be continued)



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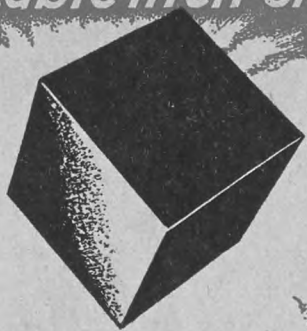
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AN ENGLISH FARM PILGRIMAGE

Continued from page 5

banks of the Murrumbidgee or the Peace, but had no place in England. But Warburton stuck to it with the determination of an apostle. Times were hard. The neighbors who shook their heads dubiously were not doing too well themselves. With dollar wheat Warburton still made a living. In 1938 he was in a position to take on another 300 acres.

But wartime requirements forced him into some changes. This year he is growing 70 acres of potatoes, almost entirely with power machinery. In his potato field the visitors saw a demobilized Scot still in uniform, save for the Sassenach pants, driving the nine-year-old tractor, while three sobered Mecklenburgers in faded field-grey were feeding the spuds into the three-row planter. Warburton called our attention to the adjacent barley field which had recently been sprayed for weeds,

which in this location averages 20 feet from the surface. The coal thus exposed is lifted by a steam shovel into an endless string of motor trucks which take it to a nearby pithead for screening. When the seam is excavated, another 20 foot trench is dug alongside the first one, the over-burden of the second trench being piled into the now empty first one. This is repeated until successive trenches have traversed the whole length of the farm and the over-burden from the first trench filled into the last hole. The total cost of the operation at Cliftonthorpe, including complete restoration ready for cropping amounts to 28/6 per ton of high quality anthracite extracted, or \$5.52 Canadian weights and exchange then prevailing.

The coal operator was selling the product for 33/6 a ton leaving a profit of five shillings per ton.

East from Cliftonthorpe may be seen three other farms where restoration has been completed and crops are growing again. At the first of these, Old Parks Farm, my guess is that it would take several years fertilizing and cultivation to restore the land to its pristine state. Besides which, as the coal seam was here about four feet thick, the farm



J. W. Salter-Chalker displaying some of the cups won by his British-Friesian herd to Canadians during the tour recorded on this page. Nearest the camera in order, C. H. Hodge, Toronto; Ben Plumer, Bassano, Alta. Beyond the space, W. H. McEwan, Moncton, N.B.; O. R. Evans, Montreal, and the author of the accompanying article.

declaring he could not continue farming without the aid of the new hormone sprays. Here I saw for the first time our old Manitoba pest, the sow thistle, sick unto death from the action of the spray.

ASIGHT which caught the imagination of all the foreign visitors was the open cast coal operations seen at Ashby-de-la-Zouche in Leicestershire, although it should be noted that similar enterprises are widely distributed throughout England.

Britain's shortage was critical throughout the later stages of the war. Underground operations had to be supplemented by surface workings. But Britian was also short of food and every acre removed from cultivation meant the provision of precious ocean tonnage to bring from overseas an equivalent weight of farm produce. In the face of this dilemma, farms selected for open cast coal mining had to be completely reinstated, and the restoration had to be completed in the shortest possible time.

The illustration at the head of this article shows Cliftonthorpe Farm, home of E. H. Wheatley, as the visiting farmers saw it. Eight months before the picture was taken this 37 acre farm had as pretty a crop on it as one could wish to see. Eight months later it will be in crop again. In the interval it will have produced 50,000 tons of coal to speed British industrial recovery.

The preliminary operation in surface coal mining on this valuable agricultural land is to scrape off the surface soil with bulldozers and pile it in one corner of the farm. The sub-soil is then stripped off and piled in another corner. A trench 20 feet across is then dug by drag line excavators the whole width of the farm and down to the coal seam,

appeared to be about four feet below the surface of the adjacent road, not a serious consideration in rolling country with good surface drainage.

At the next place, Smoyle Farm, the owner probably benefited at the hand of the coal workers. A large portion of its 151 acres was veritable bushland which would have required expensive clearing. When the miners finished, the whole farm was arable, and in spite of heavy wireworm infestation it produced, among other things, 4,800 bushels of wheat, and grazing for a herd of 63 Hereford cattle.

OPEN cast mining is, however, a wartime phenomenon. Normal British consumption and export requirements will probably be met from underground pits. The National Farmers' Union has petitioned the government to quit this type of development at the earliest opportunity. The open casters pay the landowner for the loss of the use of land, roughly equal to rent. If the owner is also the farm operator this is not inequitable. If, as usually happens it is worked by a tenant, it causes some hardship. A tenant gets no compensation and is deprived of his livelihood while the farm is out of production.

In this livestock country par excellence, it was to be expected that the foreign visitors should see some fine examples of stock management. Richard Roadnight's farm, "The Priory," Watlington, Oxfordshire, furnished one of the finest.

Farmer Roadnight's physique is a reminder of the times when Englishmen settled on four bushel sacks for handling wheat. But both his body and mind are as active as Henry Ford's at its best. Indeed he has applied Ford's mass production methods to cattle grow-

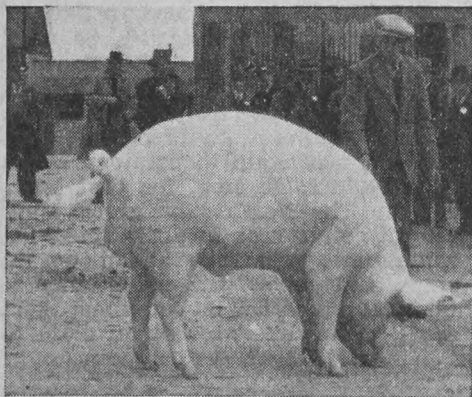
ing. He operates a veritable endless belt, taking in sixteen heifer calves every fortnight—to be exact, on the same day of the week—and marketing them 24 months later in the same steady stream.

The calves are hand picked, alternate lots being roan Shorthorns and well marked Holsteins. They arrive at the farm about a month old and go into pen No. 1, where they receive a standard ration in which calf meal replaces skim milk. When the next lot arrives, the first lot goes into pen No. 2, where the ration is slightly altered. After a few months in the 200-year-old frame barn the heifers go on choice upland pasture. But the moving belt system is never lost sight of. Several lots may merge, but younger and older lots are kept separate. The calves cost net £6 to £7—say £10 by the time they have been inoculated and delivered to the starting end of the belt. Sold as bulling heifers they command from £30 to £40.

The Roadnight farm itself is not without interest. It is situated on the steep western brow of the Chilterns, its 2,000 acres stretching down to the plain whose horizon is punctured by the steeples of Oxford. Through the farm passes the oldest Roman road in Britain. On his hillside pasture you will find the remains of an old Danish encampment, this being the furthest inland that the old sea rovers penetrated. Before him, on the plain is Chalgrove Field, lately an American airdrome, but famed as the battlefield on which John Hampton was mortally wounded in defense of other new ideas. To the right is the town of Thame where the wounded Hampton died and lies buried. Old and new pass in alluring procession on the saucer rim above somnolent Oxford.

ENGLAND, like Canada, is not without its "luxury farmers," men who have succeeded in business and itch to apply their experience to farming. One such is J. Bourne. In London you will find his world famous ladies' wear shop, under the name of Bourne and Hollingsworth, on fashionable Oxford Street. His place of escape is Snowhill Farm, Moreton-in-Marsh, Gloucestershire.

Taking his tip from the Scottish Clydesdale breeders, and the Americans who breed race horses in Kentucky, Mr. Bourne reasoned that his well watered, but thin limestone soil should be ideal for the production of livestock. Because his high, exposed hill location required sturdy breeds he settled on



[Photo by W. J. Parker.]

A typical yearling large white Yorkshire boar on the farm of Histon, Cambridge, England.

Ayrshire cattle and Clun sheep, a new breed, large, well fleshed, with dense, fine fleeces, and black faces not unlike Hampshires. The Ayrshire herd of 44 purebred cows averages over 10,000 pounds a year, about double the national average.

The overseas guests were driven into their heaviest wraps by a biting wind, more March than May. Ben Plumer of Bassano, Alta., allowed that it was an Edmonton Chinook. The shivering guests walked through pastures of astonishing verdure. Bourne had followed the simple business principle of seeking out the leading authority on grass in Britain, Sir George Stapledon, and slavishly following his advice. He was able to show us a 41-acre pasture which had carried 70 head of cattle for three months, and was still ankle deep in bright growth. The mixture sown per acre was rye grass 22 pounds, cocksfoot six pounds, red clover three pounds, the first two, selected strains developed recently at the grass breeding station at Aberystwyth, North Wales. Maybe Mr. Bourne's neighbors said some facetious things about dude ranching in his first



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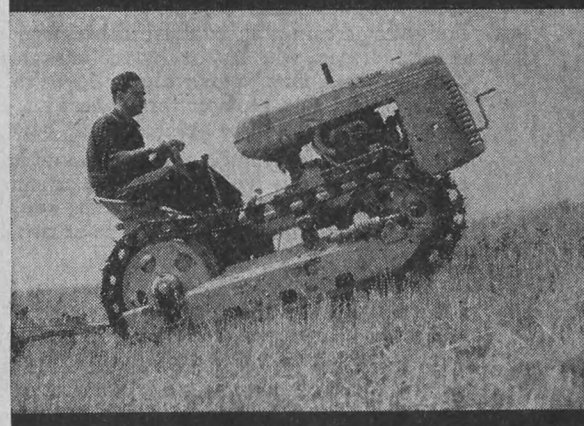
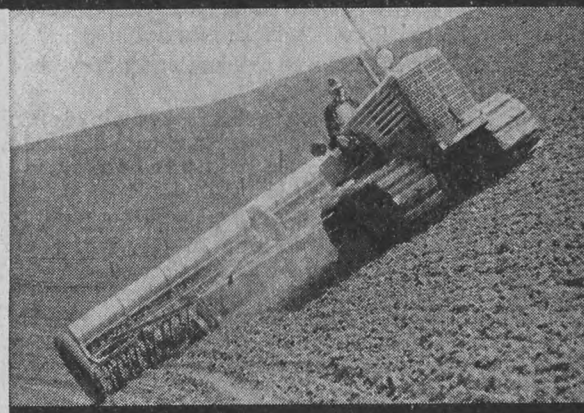
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FARMERS' BULLETIN

RATION BOOK No. 6

September 9 to 16 is "distribution week" for Ration Book No. 6. Local papers and radio will carry the dates and places of distribution for each community and information can be obtained from nearest Local Ration Board. A member of a family, or a member of a community may collect the books for the family or for others in a community, provided he has Books No. 5 with the green RB-191 card at the back of each Ration Book properly filled out in ink by the individual bookholder. **THIS CARD MUST NOT BE TORN OUT** before presenting at the distribution centre, and all information thereon *except the signature* must be printed in **B L O C K** letters. Ration Book 5 will be returned together with the new Ration Book 6. Cards in books of children under 16 years of age should be signed by a parent or guardian.

An applicant on vacation may obtain his book from any distribution point but must take his Book No. 5 with him and have *his regular address* on card RB-191. This is the address to be given in each case regardless of where application is made.

If you do not pick up your Ration Book during the official distribution period—Sept. 9 to Sept. 16—you will find yourself temporarily without coupons coming due during the next two weeks. Eight coupons will become valid in Book 6 during September. 2 lbs. of sugar are being made valid on Sept. 19. To get them on time, be sure to obtain your Ration Book during Distribution Week. It will be impossible to mail ration books to latecomers before the end of Sept.

SUGAR FOR BEES

For spring feeding, an established beekeeper registered as a Primary Producer of honey, who has had to replace colonies destroyed with imported packaged bees, may be granted an allowance of 5 pounds of sugar for each package used as a replacement. Otherwise, a maximum of 15 pounds of sugar per colony will be granted in the Fall only.

No sugar may be granted to new entrants into the industry except to (1) ex-servicemen who wish to establish an apiary comparable to one given up on enlistment; (2) student veterans studying bee husbandry in Vocational Training classes who have one or two hives for practical experience.

PRICE CONTROL

Among articles no longer under price control are dishes for the serving of relishes or pickles, power-driven or horse-drawn lawn mowers, automobile light bulbs and reconditioned motor vehicle parts.

The following, however, are still under control: soya meal, pea meal, attaché cases, cream separator brushes, wooden fence posts, pickets and gates, brooms made from Missouri, Florida or other types of grasses, brooms made from fibre, horsehair, nylon bristle, broom corn, bassine, bahia bass and polmyra and mixtures of these materials, tableware designed for the serving of either drink or food made chiefly of china, porcelain, semi-porcelain, white granite, earthenware or glass, except stem or footed glassware.

PREMIUM QUALITY EGGS

Eggs considered equal to but not actually graded as A-1 may no longer be sold as "premium quality" which is now limited to grade A-1 eggs only. Also, this legend is for the exclusive use of persons who sold under this label in the basic period—September 15 to October 11, 1941. It is now required that "premium quality" eggs be marketed in cartons of one dozen eggs. In addition to markings required formerly, the words "Premium Quality Eggs" must appear on the sticker.

AUTOMOTIVE PARTS

The removal of the 11 per cent exchange rate and the war exchange tax of 10 per cent has reduced the importation cost on automotive parts from the United States. The importer's cost in Canada, therefore, should not be greater than the basic period price unless the cost in the United States shows an increase of approximately 25 per cent.

DRY, WHOLE, SPLIT PEAS

Prices of medium and small types of whole green peas have been fixed at the same level as for the blue variety of whole peas. The ceiling for the blue and green whole peas, therefore, will be on the same price basis as for the split types of peas.

TEMPORARY RATION CARDS

A new series of sugar coupons for temporary ration cards has been issued. These are green in colour and carry a buffalo design. Both "buffalo" and "beaver" coupons will be recognized as valid for the purchase of rationed foods until further notice. Temporary ration cards are for the use of tourists, Armed Forces or to replace lost ration books.

FARMERS' RATION COUPONS

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	RATION BOOK No. 5		
Sept. 5.....	R-20	Q-3	—
Sept. 12.....	R-21	Q-4	—
	RATION BOOK No. 6		
Sept. 19.....	—	M-51	S-26, 27, 28, 29, 30
Sept. 20.....	B-26	M-52	—

NOTE:—An additional 3 pounds of sugar per person has been allotted to household consumers during the remainder of 1946. Two extra coupons, therefore, become valid in September, and the remaining coupon on December 5. All coupons reported valid up to and including September 12 may be used until declared invalid.

For further particulars of any of the above orders apply to the nearest office of the Wartime Prices and Trade Board.

46-8

days at Snowhill, but they have lived to copy his methods as one of them confessed to me.

At Lower Wick, Worcestershire, overseas visitors saw an interesting dairy development on the farm of T. S. Bennett. Bennett sells 1,300 gallons of milk daily through his own bottling plant and delivery vans. Of this amount 600 gallons a day is produced by his own 200 dairy cows. All the feed for the herd, concentrates as well as grazing and roughage, comes from his 820 acres, and from this large slices are taken for commercial cherry and apple orchards, and a spring flooded meadow of limited value.

The only way in which a farm of this size can support such a stock holding is by the use of a grass dryer. Hay cut in the morning is delivered the same day to the dryer which is capable of processing four tons of the dried product every 16 hours. In England's long frost-free season, cutting extends over many months. Young dried hay will run from 10 to 20 per cent protein, and its use reduces tremendously the grain consumption of the herd.

With the aid of the dryer Mr. Bennett can put up this high grade feed for £8 per ton, including all production and processing costs. In years when British householders could not get fuel to warm their houses, he had no difficulty in persuading the fuel controller to allow him all the coke required for maximum employment of the dryer. Naturally Bennett says he couldn't do without it.

AT Hinton Farm, near Reading, visitors could deduce for themselves an age-old maxim that success in farming is largely due to the personal factor. The owner, J. W. Salter-Chalker has made a phenomenal success as a Holstein breeder and showman. His farm is in the broad and fertile valley of the Thames. When the fruit trees are in bloom one cannot find a lovelier picture out-of-doors. That his herd averaged in one year 26,000 pounds per cow; that it has won 37 challenge cups; and that it has been placed second in national competition open to all breeds, based on points for sanitary inspection, milk records, and butterfat production is not so arresting as the personal story behind it.

Mr. Salter-Chalker was a young officer in World War I, who lived on his allowances and saved all his pay. And that was in the days before black marketing cigarettes became an alternative source of revenue for troops. His savings enabled him to buy his first small farm, now incorporated in his 1,000-acre holdings. Beginning in this small way he had the rare faculty of picking sires that would work unfailing improvement in his herd. To this intuitive foresight Mr. Salter-Chalker attributes all his success.

The visitors saw the threshing rig on this Berkshire farm working conjointly with a straw baler. The crew of nine men included five German prisoners of

war. Neither Salter-Chalker nor anyone else in England has any idea of how British agriculture will function when these prisoners are repatriated.

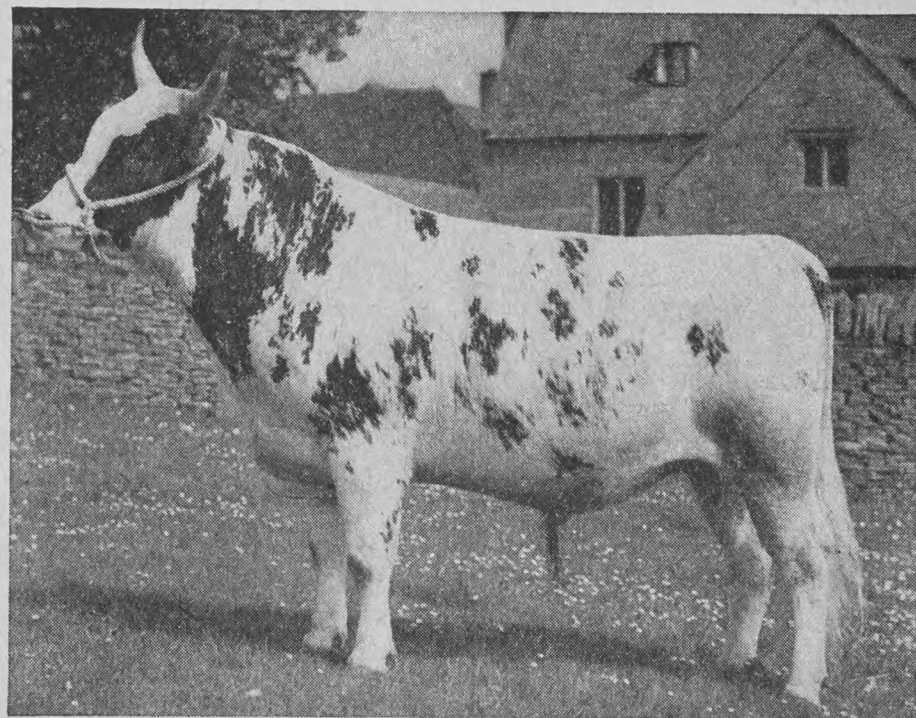
In many ways the visit to Ingestre Hall (pronounced to rhyme with industry), baronial home of the Earls of Shrewsbury, was a highlight of the tour. His lordship, following the footsteps of his great ancestor, who enlivens the pages of Shakespeare's Henry V, was till recently a captain in the Royal Artillery. He is the owner of extensive farm lands in Staffordshire and adjoining counties and takes the business of landlord seriously. Acting as his own agent he conceived the idea of buying large machinery units, bulldozers, power sprayers, and other types of equipment for which farmers have only a few days' use in a year, and renting them at cost and maintenance rates to his tenants.

Near the end of the tour when their appetites for novelty was beginning to flag the visitors' interest got a reviving shock on the farm of A. H. and G. A. Worth, at Fleet, Lincolnshire. A finely complementary pair, this father and son. The old man, impressively big, rugged, hook-nosed, an unquenchable buccaneer defying Time himself: the son a Cambridge graduate in economics, hiding the family physique under Saville Row clothes, equally at ease before royalty at Windsor or directing his labor force to which he pays \$100,000 a year in wages.

Three hundred out of the 1,600 acres on the Worth farm was planted to celery, the most profitable crop on their land, also the riskiest. Come a few days of severe weather as the crop is maturing and the farmer has to plow down his crop, for you cannot sell second grade celery. The old man thought the son a piker because he would only risk 300 acres. In his own day he had risked 700.

The Worths were also growing 290 acres of potatoes. And thereby hangs a tale. Potato growing in the Old Land is now seriously menaced by the Eel Worm. It is such a tiny pest as to be invisible to the naked eye. The female lays an egg sack which, before it breaks up to permit the escape of the young worms, may just be seen. The worms live on the fine root hairs of the potato or other plant attacked. An infected potato crop will exhibit a poor show of tops and no spuds below ground whatever.

SCIENTISTS have failed to find any means of combating this pest. The only practical measure now known is crop rotation. As the eel worm can live without a suitable host plant for a period up to twelve years, an infected field may not be sown again to potatoes, or any other vulnerable crop, for that length of time. The Worths have grown a successful potato crop in an infected field after a nine years' interval, but they talk respectfully about the potentiality for mischief which this little animal represents, meanwhile working in close co-



SNOWHILL MARCHING ON.

A junior two-year-old Ayrshire bull bred by J. Bourne, Snowhill Farm, Gloucestershire, one of the farms visited by the International farm delegates. Both this bull's dam and grand dam were 20,000 lb. cows with butterfat averages over four per cent.



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operation with the Cambridge scientists who are studying control methods.

A notable feature of the Worth farm was its light railway. A small Deisel locomotive pulls strings of flat cars over the nine-mile trackage, hauling over 7,000 tons annually to a standard gauge railway station. In the flat, heavy clay of the Fens it beats trucking in large volume by horses. It provides transportation unaffected by adverse weather.

Space does not permit me to take the reader over every one of the farms which I visited on this tour, but I must add one incident because it illustrates a point of view. Tramping through the fields of J. E. Pheysey, near Stourbridge, Worcestershire, our host interrupted the procession and pointed to two gigantic beech trees standing each in the middle of adjacent fields. They were truly magnificent specimens and landmarks for many miles.

"Do you see those trees?" he queried. "They cost me many pounds a year in inconvenience and crop shading. I suppose if I were a cold-blooded realist I would have them taken out. But as long as I live on this farm they will remain."

Mr. Pheysey expressed a sentiment which would be endorsed by most English farmers. It was the simple statement of a creed held by men who appreciate the need for cheaper production in a highly competitive market, but who do not list all their assets on a balance sheet.

LUMBER, FRUIT AND SALMON

Continued from page 3

irrigation and produce excellent crops for which the packing houses are waiting. The only handicap the country has is lack of people, and when the prospects of success are better known that difficulty will be overcome. The farmer and fruit grower who was prepared to work and not just accept his occupation as a pastime made plenty of money 20 or 30 years ago. He can do it today and tomorrow if he keeps his mind on his job and realizes that the prime function of his land is to produce."

The Salmon Cycle

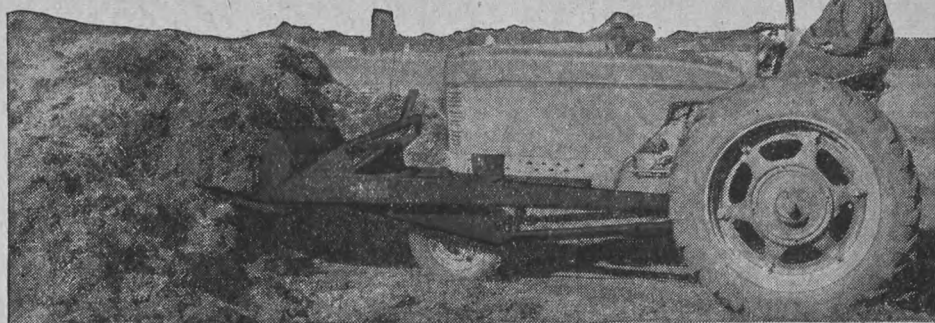
Every year about this time, the salmon horde moves in from the open Pacific seeking the spawning areas of the lakes and rivers of British Columbia. Most important of these areas is the basin of the mighty Fraser, to which a vast part of the province is tributary. As the salmon head for the river, hundreds of fishermen set out to catch them—under strict regulations, of course, to prevent over-fishing.

For several reasons, the catch of salmon on the Fraser this year is being watched with special interest. One of them is that the salmon migrate in four-year cycles and this happens to be a cycle year of the "big run." Since four years ago there was a tremendous catch of salmon it would naturally follow that this season would witness another big one, and the fishermen have prepared accordingly. But this is also the first year in which the Fraser River fishery is under direct control of an international commission whose job will be to see that the pack is divided evenly between Canadians and Americans.

The international interest in the Fraser river's salmon derives from the fact that while the salmon approach the river they pass through American territorial waters and are thus legal prey to American fishermen. Recognizing its responsibility, the United States government has shared with Canada on a 50-50 basis the cost of the long term conservation program designed to restore the fishery that for years was threatened with extinction because of rockslides and over-fishing.

The commission was formed eight years ago following the passage of treaties between Canada and the United States and one of its first jobs was to repair the damage done by the slides and to construct fishways to facilitate the passage of the salmon upstream. These projects have now been completed, and the commission's main function now is to see that effective regulations govern the fishermen.

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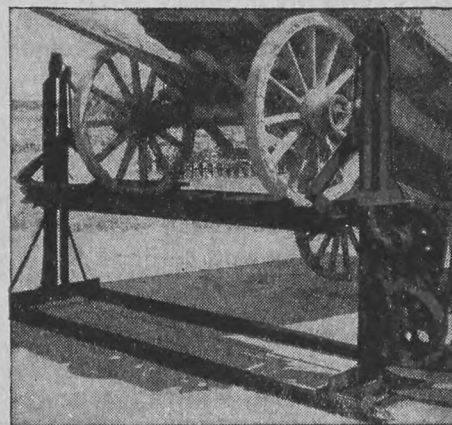
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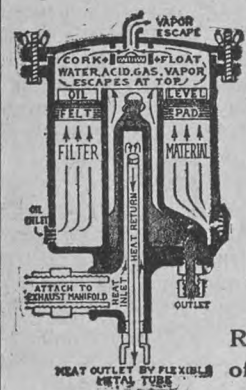
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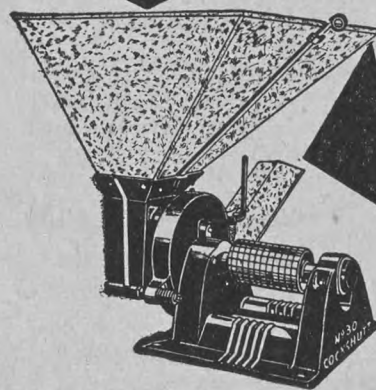
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RACHEL

Continued on page 8

Esau's goods were sold on that journey, and the farmers who had found Jacob such good company the autumn before, when he passed by, yawned when he went to bed, wondered what they had seen in such a dull fellow, and determined not to spend quite so freely until they had seen other men's samples.

But Jacob hardly knew whether he sold or not. He lived in a rapture. On the third morning he was delirious with happiness. Had he met his beloved upon the road he might well have passed her by and never known her, so unreal had her image become to him. It held his imagination so that he saw nothing until his horse slipped and stumbled, throwing the rider against the saddle-bags. Then, to his astonishment, Jacob became aware that the sun was past the zenith, and the ground white with snow, which powdered him with flakes from hat to shoes.

It was late March, but winter had come back with all the strength of January. The cold grew more intense; the storm-clouds thickened, and the horse plunged to his fetlocks in the snow, which drifted upon the gale, so that the rider could see nothing of the way. Jacob became aware of an intolerable aching in his eyes. It was the warning of snow-blindness. While he dreamed, he had been staring at the snow-covered ground for hours and never knew it, and now his eyeballs felt as though they were being pierced by needles.

He held the horse loosely and let it pick its way, and toward five in the afternoon, the animal remembering, turned up the track that led to the farm; thus Jacob came to the door.

The farmer, who came bustling out, knew him at once, perceived the trouble, and helped him to dismount. Then, after the horse was stabled, he bathed Jacob's eyes with cold water and bandaged them.

"A few days and you will be well, Monsieur," he said. "It will be impossible for you to continue your journey for a while. You must become my guest, and my daughter shall be your nurse."

Charles Tremblay, old-fashioned and patriarchal, had never told Jacob his daughter's name. Now, hearing the compassionate, gentle tones beside him, he never doubted that this was Rachel. When they ate she sat beside him and cut his food for him.

"You are welcome a thousand times, Monsieur Jacob," said Charles Tremblay. "It is not often that one sees a patriot now. Grâce de Dieu, we are all Englishmen nowadays!"

He told him that there was room and to spare, because his other daughter had gone to St. Boniface, to spend the week with her aunt, who was ailing.

Jacob suspected nothing, and thus the trap that fate had set was sprung. Mademoiselle Leah looked with favor on the young man from the moment she saw him. She was a romantic, sentimental girl, and had never seen her

mate in the young farmers and fishermen of the district. And Jacob was a young man of good appearance. His prospects were excellent, said her father, winking shrewdly, for Jacob had told him that Esau had promised him a partnership that summer. If Leah thought that Jacob's love-making was a trifle precipitous, she ascribed that to his city ways and was properly impressed thereby. Perhaps the blind, infatuated wooer thought Leah a little cold, and wondered that she said nothing of that happy hour in October; but before the week had passed, and the bandages were taken from his eyes, he had asked Monsieur Charles for his daughter's hand.

Charles Tremblay was delighted. Though a well-to-do man, and much respected, he could not but remember that he was sprung from humble stock; his father had been only a poor tenant of the seigneur, and had carried his barley to the mill to be ground. He bantered Jacob in his rough, kindly manner.

"I was not slow at courting my woman," he cried, "but at least I saw her face before I kissed her."

Jacob was too much infatuated to understand the meaning of the farmer's words; and even then it would have been too late. Monsieur Tremblay continued:

"It is perhaps lucky for Leah that you have not seen her sister."

The bandages were taken from Jacob's eyes. When he saw Leah for the first time he still imagined her to be the girl whom he had seen and loved the year before. And if there was any prompting in his heart, or any undercurrent of fear, Jacob thrust it aside.

"We shall tell Rachel when she returns," said Leah happily. "It will surprise her, and she shall share our joy."

IN those days letters were few and far between, but Jacob had written to Esau, appraising him of the accident and of his engagement. It was his plan to be married as soon as possible and to take his bride back to Quebec. Esau was a good brother. He did not answer, but he closed his warehouse and came in person, bringing gifts with him. The bans were read. The marriage was a week away when Rachel came home.

Somebody had told her, and she had hurried back with a numbed and aching heart. The news was incredible. She came in at the door, with a blanched face, her heart hammering in her ears. She saw Jacob beside her sister, one arm thrown around her, telling her of his plans, his dreams, his love.

"This is Jacob, sister," said Leah, and the women fell upon each other's hearts. That was Rachel's excuse for tears. She clung to Leah and wept, and her grief could not be stilled.

"It is for happiness," she sobbed.

But she knew there would never be any happiness for her again. Hearts do not lie, like speech, and the things that had been unsaid had been the best remembered.

She had watched Jacob riding away, fearful that he would look up; and then, afraid that he would not, she had waved her hand to him and gone back to her mirror; and, looking at the reflection of



"Yes sir, Gus, we're a nation of hustlers—We get things done!"

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her flushed face and shining, eager eyes, she had never doubted but that the fairy prince would ride back when the spring came. How happy she had been that winter, dreaming of her lover's return!

Jacob stood like a man stunned. Now he understood the trick that fate had played, though all were guiltless. He never knew how the remainder of the day passed. It seemed interminable, and they appeared to live in some impossible and fantastic dream. When he pressed Leah in his arms his lips were cold as snow on hers. But at last the day ended, and Esau, good sleeper that he was, had stamped upstairs to bed, and Monsieur Charles Tremblay, having bewailed the apathy of the land and predicted a bloody uprising against English rule, had gone for his candle like any peaceful citizen. Jacob and Leah were alone. She clung to him.

"So now thou hast seen my little sister, Jacob," she whispered, "and I begin to grow jealous of her, because she is fairer than I. Art thou sure that thou lovest me better? Tell me truly, beloved, because I feel heavy-hearted, and if thou dost not love me I do not want to live."

Jacob was a good man. He had been a good son and a good brother, and he did not falter now. He pressed his lips to those of his betrothed.

"I love thee best, Leah," he answered. Then Charles Tremblay came back with his candle and they bade each other goodnight. When he left her, Leah was smiling with loving lips and eyes that rested tenderly on his.

He took the candle and went upstairs to bed. When he had closed his door he blew the light out and sat down before the window. This was the night on which he was to put his memories aside. The weather had changed; spring had arrived—the air was mild and soft. The snow was gone, except from the mountain tops, and in the St. Lawrence below the icefloes ground and cracked as they hurried to their burying-ground, the sea. The water flung them upon each other turbulently. When he was a boy, Jacob had had a longing for the

sea. It seemed to offer the gift of freedom to those who came to it. He had put that dream away, as many a merchant's son must do, but he had never wholly forgotten it. Now, as he sat there, he felt like a trapped beast. Flight seemed his only refuge. The memory of Rachel maddened him, and the wreck of his hopes enclasped his honor and seemed its ruin too.

If he had lost Rachel and never seen her again! But he had seen her in her living beauty, and he must see her for years unending, live near her, watch her beauty mature and dwindle, while each knew the heavy secret of the other's heart; until at last, when youth was long past, they would stare at each other through the mists of age and know that life had been lived in vain.

Jacob stretched out his arms. "Rachel! I love thee! Come to me!" he breathed.

NOISELESSLY the door opened. Jacob spun around. Before him stood Rachel. She held a candle in her hands, without a candlestick, and the grease dripped down over her dress. To his last day Jacob saw her thus, as she stood there, the visit picture he had carried in his brain, the glowing cheeks, the dark hair—love embodied, love incarnate—all the love in his heart. How could he thrust such happiness away?

Her eyes were not cast down, as they had met before. Love, which had made her timid, now made her bold. She wore a travelling cloak over her simple dress. She thrust its folds apart and knelt down at his feet and drew his face against her heart, holding him in the hollow of her arms, and they remained thus, speechless and motionless, for a long time.

"Rachel," said Jacob, lifting up his head, "thou knowest how this happened, and that I have never loved any woman but thee."

"I know," she answered. "Leah has told me."

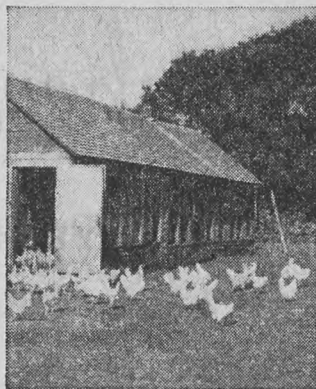
She rose up and looked at him, more boldly still. Then Jacob understood, and, clasping her in his arms, he was irresolute no longer. A mad exultation took the place of his despondency. He opened

the door and they crept softly down the stair together. They heard the breathing of the sleepers in their rooms as they passed down to the floor below, where Leah lay. Then Jacob heard his name whispered softly.

He looked at Rachel, but she had not spoken; she stood listening, finger on lip, fear in her eyes. The name was spoken again. The door of Leah's room stood partly open, and she was dreaming of him and murmuring in her sleep.

Jacob looked at Rachel with equal terror.

They gained the entrance to the house and were standing side by side in the darkness, feeling the damp turf



beneath their feet and seeing the stars above.

They went forth, hand in hand, down to the Gulf. They looked over the dark water. The St. Lawrence roared among the shattered floes, and in the east, where the full moon clung to a bank of cloud, they saw the river widen toward the sea. Islands lay there, extended under the cloudy sky, like wardens watching the approach to their homeland. To sail out into the world, together!

But at each step Jacob felt his heart turning to a leaden weight in his breast, and his feet were leaden too, and duty called and hope was dying. If they went forth into the world they could never return, for neither Esau nor Charles

Tremblay would ever forgive, and their name would become a byword among their people. The land was dear to them, and the world outside hostile and strange. The ties of home are strong; they draw and bind the habitant to his soil, and none can evade his destiny. Both understood that, and each read the other's mind, for at the river brink they turned and looked at each other in mute questioning. They clung together upon the strand and their tears were mingled.

"She loves thee, Jacob," said Rachel, weeping. "She speaks thy name even when she sleeps, and thou fillest her life in dreams as well as waking."

Jacob did not reply, but waited for the inevitable words.

"She has always loved and trusted me," sobbed Rachel. "She could not live if thou didst abandon her."

The glamor was gone out of their hearts, but it had been replaced by the stronger instinct of obedience. Simple people of the soil, trained to self-sacrifice and duty, they shuddered at what they had contrived.

They retraced their steps through the darkness toward the farm-house. There was a strange peacefulness in Jacob's heart. They had put aside all that life had to offer them of joy; but they had chosen instead the better part which should not be taken away. They halted at the door and looked out for the last time together. The rush of the river and the roaring of the floes seemed like the hurrying of the years to come. Then they went softly upstairs. Outside the room where Leah lay, they stopped.

"Jacob!" was murmured softly from within.

"Jacob!" murmured the woman upon the stair. "Goodbye, my love," she whispered.


"Such is life everywhere, Monsieur," said the priest meditatively, "and such it is meant to be, having sorrow and joy, patience in bearing grief, and its rich fruits of contentment when the blessing of faith is there. But when faith is not there..."

He folded the newspaper and dropped it into a drawer.



FUL-O-PEP

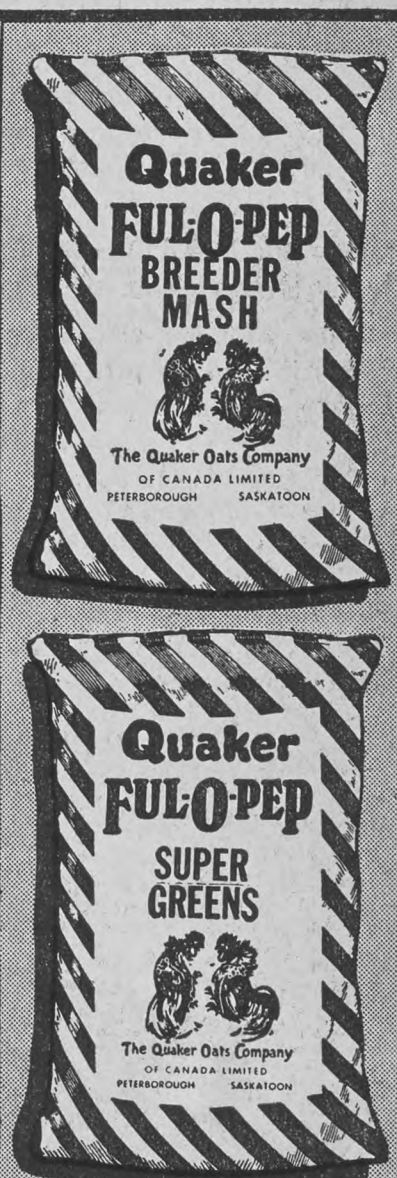
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"Didn't your teacher know anything, Mommy?"

DAUGHTER: Didn't she even know about gum massage, Mommy? Didn't she? In school we —

MOTHER: Princess-Face, you're my daughter and I love you. Only sometimes . . .

DAUGHTER: But Momm-mmee! You brush your teeth with Ipana but you don't massage your gums with it! You —

MOTHER: Stop squeaking!

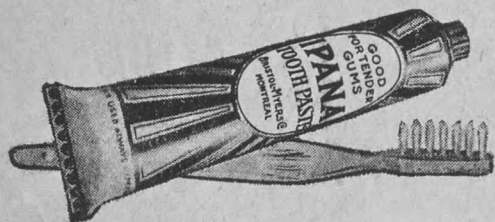
DAUGHTER: But teacher says soft foods don't give your gums enough exercise and so everybody should massage their gums after they brush their teeth because healthier gums mean sounder, brighter teeth, and —

MOTHER: She says that?

DAUGHTER: Yes, Mommy, because she says otherwise gums might get flabby and tender. That's what we learn at school. Yes, and see that "pink" on your tooth brush, Mommy? Well —

MOTHER: And I used to call you my Bundle from Heaven! What about it?

DAUGHTER: Mommy, you should've seen the dentist about it a week ago when you first saw it! You should've, you *know* you should've!



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PRINCESS-FACE may be a little on the officious side . . . but she's one of the many school-children today who know more about modern dental care than their parents. In thousands of classrooms all over the country, teachers are explaining the need for gum massage . . . its importance to sound gums and bright teeth.

And backing these teachers up, a national survey shows that 7 out of 10 Canadian dentists

approve this routine — recommending regular gum massage.

If your tooth brush "shows pink," don't ignore its warning. *See your dentist.* He may suggest "the helpful stimulation of Ipana and massage," as so many dentists do.

For Ipana, with massage, is designed to help your gums to healthier firmness . . . your teeth to new brightness . . . and your smile to a sparkling radiance.

The Countrywoman

PARENTS are now concerned with getting their children ready for and off to school. For many there will come the first break from home and family as they leave to attend high school at a larger centre. Other changes will come as the years pass but this may well be the most profound one for them. It will mark for some the beginning of living under the guidance and control of more remote relatives or family friends. But for those who go to live with strangers there will be many adjustments to make, and possibly for a period, considerable unsettlement.

In some places, notably in Alberta, successful efforts have been made to establish residences for out-of-town high school students. There, young people are under the charge of a responsible matron or house mother and there is an atmosphere of the importance of study. These residences could well be increased in number to the advantage of a still larger number of students. It would require concerted effort on the part of those people who are genuinely interested in seeing that the greatest possible number of young people get a fair opportunity to complete high school work.

Shortage of help on the farm, both in the house and out, is apt to result at this season in a boy or girl being kept out of school to help at home. It may mean simply that they are late in starting the new term's work. This greatly handicaps the country child and may result in a dislike, if not a refusal to pursue high school studies. A loss of a year means much at this vital time in their lives.

There is more need now than ever before for a minimum of a high school standing to fit a girl or a boy for life in our highly complex modern world. This is just as true for the young person from the farm as it is for those who live in towns and cities. The best jobs of the future will go to the person trained to think and act on his own, fitted to understand the many changes which will come. Competition will be keen. The world needing the highly trained will pass up the poorly equipped person.

Does Your High School Boy Batch?

By MARJORIE K. STILES

THE first Monday of September, 1945, 50 rural high school students assembled at the Didsbury High School. The teachers were amazed and nonplused at this unprecedented influx of grade ten students, for which they were quite unprepared. However, it is merely a forerunner of changing times. In future a much higher percentage of rural youth will attend high school.

At present our town is badly crowded, and will continue to be until the postwar building program catches up with the need for homes, so it is quite a problem for parents to find suitable accommodation for adolescents, only a small number of whom can secure, or afford, suitable boarding places. In some places there are dormitory facilities, and there are also a number of denominational schools where students are assured of good meals and proper supervision, but by far the greatest number batch in homes where they have light-housekeeping privileges.

Our fourteen-year-old son was among those country students listed above, and my experience finding a place for him to stay, is no doubt typical of the West as a whole. Board and room could be obtained, for \$35 a month; but a quick reckoning warned me, that for this amount, even without books, spending money and extra clothing, we might be bankrupt, even before the problem of vocational training, or high school for the other children confronted us. We decided to have him batch, considering, that batching would use up some of his spare time, which would be all to the good.

The women in Didsbury have been most generous in opening their spare rooms to students, so I was able to find a number of places where light-housekeeping or batching could be done. Five dollars per month, per person, seemed to be the usual charge, though the accommodation varied considerably. In one place, the boys entered their bedroom from the entrance hall so they did not in any way interfere with the family. Here students provided their own furniture, including a small cook stove, set up in their bedroom. I thought a separate stove might be a dangerous asset for growing boys who might rush off to school and forget to check the drafts.

Another place had a comfortable big room, with suitable furniture and was furnace heated. Cooking was done on the family range while dishes were kept in a kitchen cupboard. Fruit, potatoes and perish-

September brings thoughts of arrangements for country students away from home

able supplies were kept in the basement. Students ate in the kitchen, but were not given the freedom of the living room.

This was the place we decided upon, but when our boy arrived, instead of two boys, there were four in the room. And four unsupervised boys is an entirely different thing from two boys. The landlady, too, came to this conclusion before the end of the month, and asked two of the boys to find other accommodation. One was able to, but the other boy had to board at the public hotel—an expensive and unsatisfactory proceeding for a student.

We supplied, dishes, cooking utensils and bedding, and while the boys had no responsibility with fires, they were expected to carry some of the water.

Since we live only six miles from town, our student was able to come home week-ends. On the first Friday night he said, "Well, it's easy to say one is going to batch, but it's not so easy to do it!" I agreed with him. For one thing, boys at this stage are growing so fast it is important their meals are balanced and nourishing. Farm boys are kept so busy with outside work they are not handy in the kitchen—especially a strange kitchen. From reports that first week I realized there was danger of their menu consisting of "hot dogs and ice-cream cones."

From then on I took particular pains to see that provisions I sent in were nourishing and easily prepared, and I managed as much variety as possible. I bought three dozen pint sealers, and filled them with fruit, vegetables and meat. At Christmas and Easter, I refilled them with seasonable supplies, such as apple sauce, baked beans, diced beets, carrots, canned chicken and prunes.

These boys bought milk, bread, cereal, both prepared and porridge, and such extras as they fancied from day to day; each paying half the cost at the time. All food brought from home was shared equally. Sunday, I sent in a pudding, such as custard, rice, blanc mange, etc., for Monday's dinner. In addition I sent cooked carrots, turnips, cabbage, and cooked meat for Monday. We found, after experimenting, that the best way to send such foods was in pint

sealers which were marked with a square of gummed paper so the boys knew such supplies were to be used Monday or Tuesday—never to be kept after Wednesday. Macaroni and cheese, as well as baked beans was also a favorite.

Of course, I sent cookies, or tarts, and the odd pie, and bread and milk for Monday's breakfast.

In addition to potatoes, eggs and bacon, I sent in three pints of fruit, two of vegetables and one of meat each week, though they did not always use just this amount, as, of course, the other boys also brought things from home. I sent sugar and butter from home though our student usually had his ration book so that he could buy fresh meat; though bacon, hamburger or sausage seemed to be the only meat they could prepare. Their landlady cooked potatoes for them at noon, so they were assured a hot dinner.

There is no doubt, that sending a boy away from home for the first time is a serious step, especially if he is to batch and some attempt should be made to prepare him for it. One should ask the landlady exactly what privileges he may expect; and then a list of foods which can be prepared under these conditions can be worked out. He should practice making gravy, white sauce, or stirring up a custard from one of the prepared puddings on the market, at home in familiar surroundings.

A boy should be taught how to organize a meal—such as making the porridge while his partner is setting the table and making the toast. It would be natural for a girl to wash lettuce and set it away to crisp, but an adolescent boy would never think of such a thing.

I tried to impress on these boys the necessity for balanced meals, but I felt as the spring advanced into hot weather they were not getting sufficient food. They couldn't be bothered fixing celery and such things, and the sight of a can of soup finished their appetites for that meal.

In addition to food, there are many other things, that must be considered by the boy who is batching. One of these is money. On the first of the month, we gave our boy his room rent, which he paid himself. We also allowed special funds such as a season skating ticket; shop equipment, or money for the music festival when the need arose. In addition, we gave him an allowance of two dollars a week spending money, with which he was to buy such food as he needed and spend the rest as he wished. I think most of the spending money went for shows and "Pie, down at Joe's," which seems to be the only source of recreation for these country students in most small towns.

Of course there was the skating rink, in winter, but we noticed that most of the country boys, who had never been around a real skating rink before, were backward about learning, when much of the rink time was taken up with hockey practice.

A student will need a sewing kit—scissors, needle, threads and mending yarn as well as a shoe cleaning outfit. While a girl would prefer a suitcase, we found one too bulky when the boys often had to catch a ride home. We found cardboard cartons were suitable for the food, while an army haversack was convenient to carry home soiled clothes, sheets, etc. Of course, toilet articles, and an alarm clock—if the youth has no watch—are also necessary. A simple first-aid kit, is also advisable, with headache and cold remedies, salve and bandages and such simple remedies as are used by the family. In some places it is also necessary to supply a special electric bulb for studying, as the 25-watt bulb in most bedrooms is insufficient.

Another difficulty, is the lack of a radio, and newspapers for social studies. A bundle of favorite papers can be taken in each week, along with Chinese checkers, jig-saw puzzles or other favorites to pass the time. But listening to the radio was one problem we were unable to solve.

There is no doubt that a student who is batching can get by at least ten dollars a month cheaper, than one who is boarding. However, it makes a great deal of extra work for the mother on week-ends. (I would not recommend batching at all for a young 'teen-aged student, unless he could go home week-ends, or had a job for Saturdays.)

Many of the country boys took their bicycles to town. At first we frowned on this, however, we allowed our boy to take his in later, when we saw that riding out into the country gave him exercise and recreation during the long spring evenings.

Whether batching or boarding there is no doubt that sending a boy through high school is quite a problem for farm parents

For A Boy's Room



IT takes as little as trimming a lad's bookshelves with stars or boats or airplanes, adding a similar design to his desk-lampshade, and giving him practical sturdy counterpanes on his bed, to make him happy. Borders like the one shown come ready-pasted, stars and many other designs for lampshades are also gummed on the back. Boyish counterpanes for beds may be made from tan or blue rep, then trimmed around bottom with rope for a real nautical and masculine touch. Boys do not like ruffles and frills; they do like plain practical decorations and furnishings, and it's the wise mother who remembers that!

—LOUISE PRICE BELL.

Clothes for the Small Child

Considerations to keep in mind when choosing materials, making or buying garments for children

By Marion R. McKee

THE little lady or small gentleman in your home leads an active and interesting life, and during all this activity seems to need an endless amount of clothes. Naturally young children are not so interested in the stylish lines but in the comfort and freedom of their wearing apparel.

Interesting and becoming lines in children's clothes are important, but more important is that comfort and style should be combined. Styles that give freedom to all parts of the body, and are loose enough to prevent irritating sensitive skins, are the type to choose for a child.

Since Junior spends the better part of his day stooping, bending, crawling and reaching, his clothes should allow for all sorts of action. Yielding and flexible materials allow his play to be free and unhampered. Young skins are sensitive, and smooth, soft textured materials are the least likely to irritate and cause discomfort.

Naturally, since you are the one to do the laundry, the washability of your child's clothes interests you very much. Colors in materials used in children's wear should be colorfast to sunlight and washing if they are to be satisfactory. Materials and designs that are easily ironed have an advantage over frills and other fussy styles that are difficult to do and time consuming. The amount of shrinkage should be at a minimum, as it is difficult enough to get clothes large enough for a fast-growing youngster, without having the added worry of them shrinking. Check to see if the material is pre-shrunk.

BECAUSE they are subjected to such hard wear, severe strain and frequent laundering, children's clothes should be well made. All seams and finishes should be smooth, flat and pliable. Raw seams and edges become stiff and irritating to the skin when they are starched and pressed. Reinforcements should be placed at spots where the strain is the greatest, and this will greatly prolong the life and use of the clothes. Under the arms, in the crotch, and at the elbows and knees are the vital places to reinforce. The use of twilled tape and stay buttons on children's clothes will help prevent them from tearing off.

Materials for children's clothing should be durable, light weight, and

easily laundered. Cotton is well adapted to garments that have to be laundered frequently and will soon be outgrown and need replacement. Where warmth

are so short. When manufacturing and materials are adequate, children's underwear will be plentiful, and in the meantime patience is required. Good underwear is simple in cut and has a good fit. The armholes should be roomy, the seat generous and the crotch wide to insure perfect freedom and good posture. A high cut neck is desirable, and the shoulder straps should be at least two inches wide to prevent them from slipping off the shoulders and causing discomfort. If the underwear opens down the front and has large buttons and buttonholes the child will

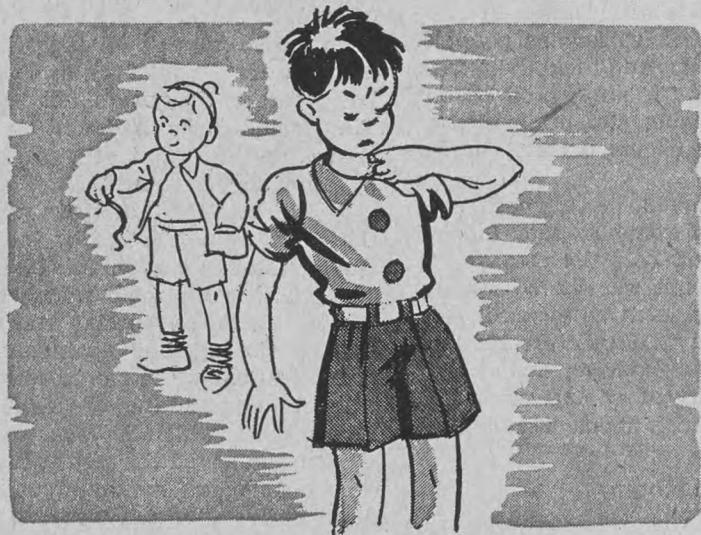
ings, resulting in poor posture. If round garters are used below the knee, purchase three-quarter-inch elastic and slide adjusters, and have the garters loose enough to leave no mark.

Children's shoes should be purchased with the greatest of care, eliminating all guess work. Let no one but an expert salesman fit your child for shoes, as a poor fit often results in a number of foot troubles in later years. Shoes should be both comfortable and healthful which means long and wide enough for the foot to function properly. Too short shoes may eventually cause bunions, corns and ingrowing nails, while a loose fit may cause bad walking habits and blisters. Soft, flexible and light are the most desirable features of footwear. Patent leather is not recommended for children's shoes as it prevents the evaporation of moisture from the foot and so is apt to cause discomfort. Too heavy

a shoe is tiring for a child and hinders his freedom of movement. If you must buy shoes through the mail or are unable to have the child fitted personally, have him stand on a piece of paper, and then trace around his foot with a pencil. A comfortable shoe will be one inch longer and one quarter of an inch wider than the foot. Send along this paper with your order, and the salesman can compare the sizes with it. If your child wishes to run barefoot, and providing there are no tacks or glass for him to cut his feet on, let him do it, as the exercise his feet will get will be good for him.

Dresses for a little girl should be loose and full in design, without being too uncomfortably large, to allow for her to "grow into" them. Allow six to eight inches at least at

the hem, and this will give plenty of leeway for lengthening as she grows. The smock type dress with the full length front opening is one of the best types for little girls and also is easy to get in and out of. If the buttons and buttonholes are large enough, the child will be stimulated to help dress herself. If the neck is cut low, the back will not pull across the neck and hinder good posture, and the front will not pull back to choke or rub the sides of her neck. Laundering and ironing are made easier and the comfort of the dress improved if there are no collars, or a flat, stitched-down one is used. Raglan sleeves are the best type for dresses, and allow for reaching and pulling. A slip is unnecessary if there is a matching set



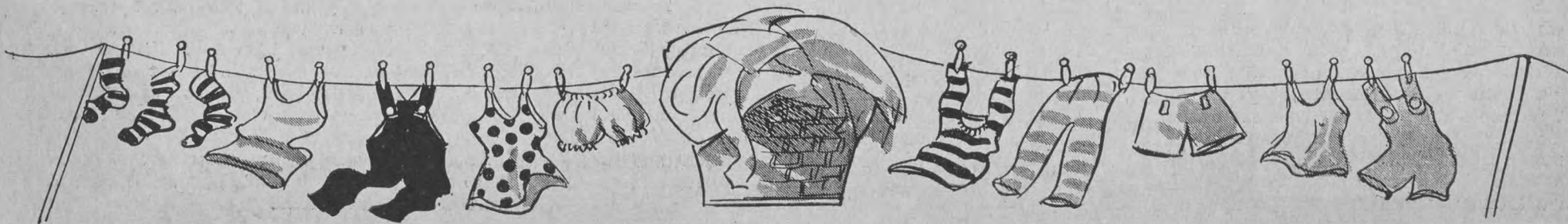
is needed without excessive weight and bulk, wool is the most desirable material, and is especially good for outer wraps. Smooth and soft textured materials are the best, and the least irritating, and are especially desirable for clothing that comes next to the skin. Another feature in their favor is that they are less likely to wrinkle and so require less troublesome pressing and ironing than harsh surfaced materials.

It is most important to buy the right size clothes for a child, and wisest to buy large enough to allow for growth, without getting them so large they will be awkward and uncomfortable and get in the child's way. Using outgrown and too small clothes is poor economy and runs the risk of spoiling the child's nerves, disposition and health. Too short shoes and stockings are a good example of the wrong kind of clothing. Try clothes on a child, and make sure he sits and moves around before making up your mind as to the size. Often a garment will fit and look just right when the child is standing, but it binds and pulls when he moves or sits down.

Buying underwear for a child these days is a trying occupation, as supplies

be encouraged to help himself dress and the job will be easier for him. If the garment is in two pieces, there should be large buttons and buttonholes at the waist to help him.

WHEN buying stockings for a child be sure to get them one-half inch longer than the foot, but no longer, as excessive length will cause ridges, making his feet sore. When long stockings are worn get a good waist that is made to distribute the pull evenly, and make sure the stockings are long enough in the leg to prevent pull on the shoulders by the supporters. Replace worn elastic in the supporters promptly, for unless this is done the child will hunch his shoulders to hold up the slipping stock-





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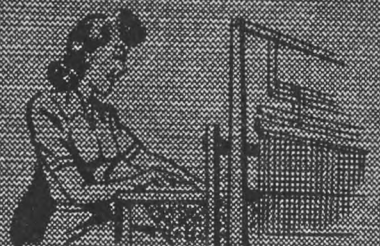


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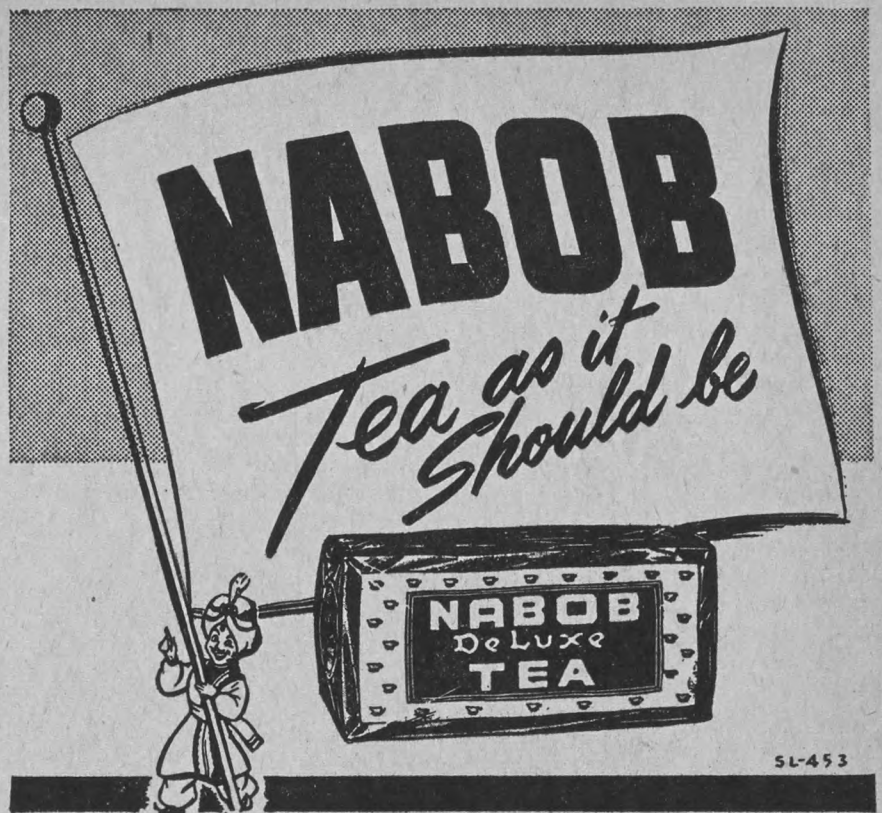
of panties with each dress, and this will make the garments lighter and freer, as well as cut down the laundry work. In order to be comfortable and not bind, the panties should have a fitted front yoke and a wide easy elastic across the back. If the panties have a drop seat be sure to use large buttons so the child can do and undo them easily. Materials that are especially suited to little girls' dresses are percale, lawn, gingham and fine broadcloth. They don't soil or wrinkle easily and the permanent finish does away with starching.

Boys' suits should be chosen with many of the same features as little girls' dresses. Large enough without being too large, comfortable and roomy, and with large enough buttons to stimulate self help are the features to be stressed. Collars are unnecessary on boys' suits, and a slightly rounded neckline or a stitched-down collar is best. Short, cap or elbow-length sleeves lend themselves beautifully to play, and are comfortable as well. The straight leg of the pants should be as wide at the bottom as at the largest part of the thigh. To allow him to stoop and bend with perfect freedom, a wide generous seat and enough length from waistline to crotch is essential. Allow five or six inches below the button level at the waist in blouses, or in the upper part of a two-piece suit, to provide for growth.

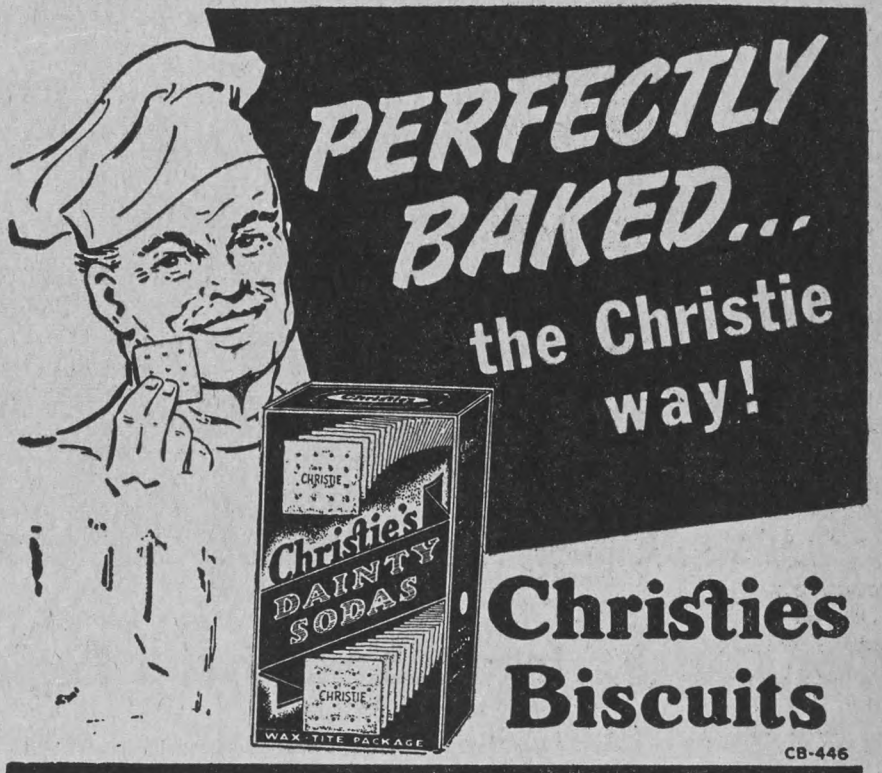
In choosing a coat for the winter, remember that a soft, light weight material with a rough finish or pile gives more warmth and comfort than a heavy, closely woven mat. Too heavy a coat is a drag on a child and will spoil his posture. See that the coat fits well around the neck and shoulders and does not tend to push the child's head forward. The fit should be loose enough and short enough for freedom of movement.

A winter playsuit should be bought with two years' wear in mind. Since they are intended for all kinds of weather, the material should be warm and moisture proof. Woven fabrics that are light in weight and pliable to allow for movement are the most desirable. One-piece snowsuits that open down the front with a slide fastener are the ones to choose for children between two and six, for they are easy to get in and out of, and there is no pulling apart at the waist to allow the cold and snow to get in. Since the children like to collect things, and as they must keep a handkerchief handy, a pocket is a welcome feature. They should be placed near the waistline and slanted across the top so the hand will slip in easily. The seat should be wide and roomy, and the legs loose fitting with a tighter elastic band at the bottom. Raglan sleeves will help prevent any drawing over the back and across the upper arm, although a good fitting straight sleeve, if wide enough, will be satisfactory. A soft rolling collar that is not too close to the neck is the most comfortable and allows for growth. To help save on wear and tear on the suit, reinforcements may be placed like patches on the outside of the elbows and knees, and these may be replaced. Thread and tape reinforcements placed through the crotch, under the arms and beneath the pockets will prevent tearing and excessive wear. If you are making a playsuit at home try a muslin model first and make any changes in fit before cutting into the good material.

Mittens, caps and hats should be bought with warmth, comfort and lightness in mind. Mittens are much warmer than gloves and still allow enough freedom for grasping toys and playthings. Caps and hats protect the head from heat and cold, and the glare of the sun. They are best if light in weight and large enough. A summer hat should have a brim to protect the child's eyes from the sun. All hats should be worn so that the child's ears are flat against his head, so that his ears will be trained to do this rather than stick out ungracefully at the sides of his head.



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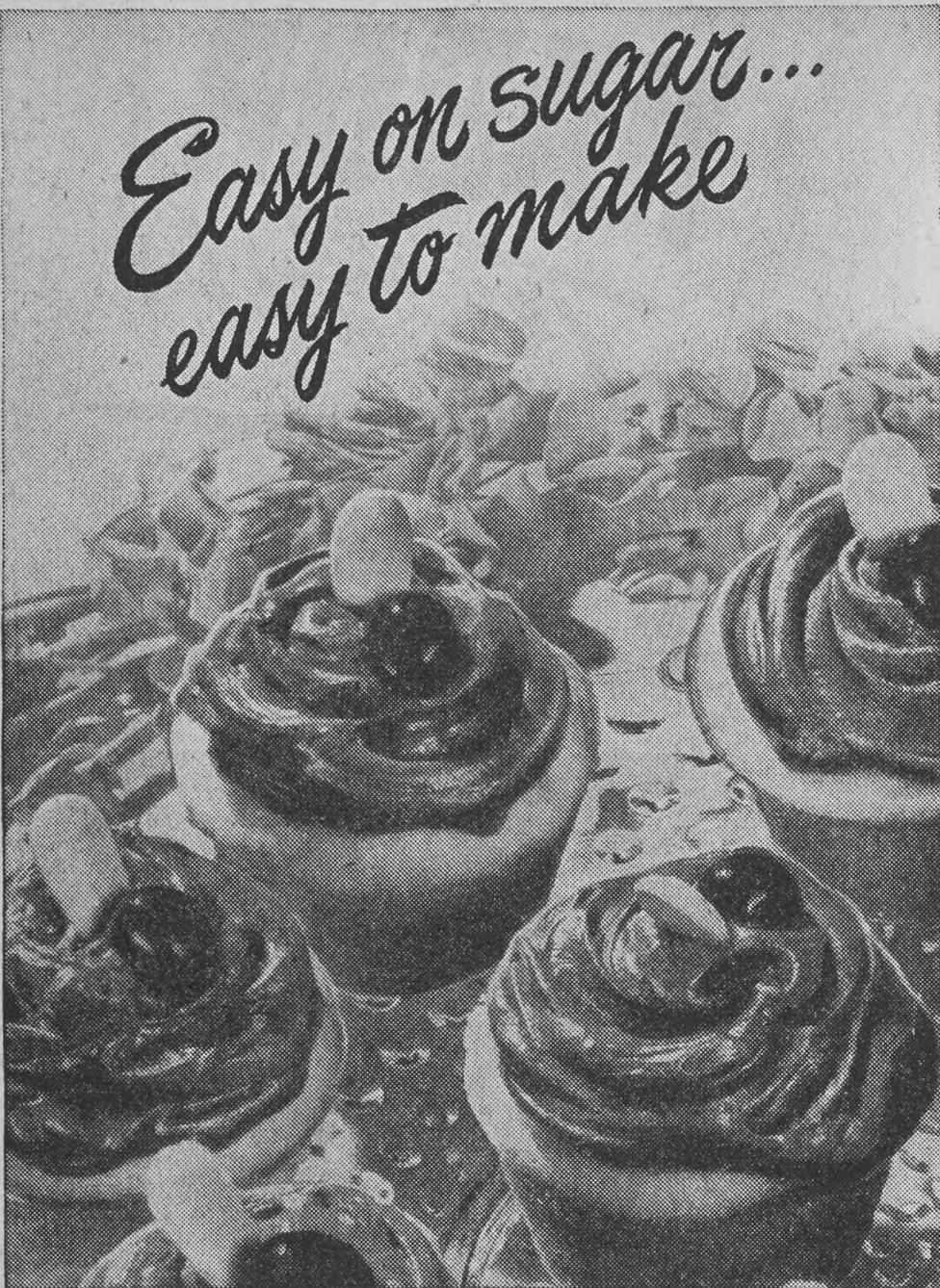
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MAGIC CHOCOLATE CUP CAKES

2 cups sifted all-purpose flour	2 eggs
2 teaspoons Magic Baking Powder	$\frac{3}{4}$ cup milk
1 teaspoon salt	1 teaspoon vanilla extract
$\frac{1}{2}$ cup shortening	Chocolate Frosting
1 cup sugar	10-12 halved maraschino cherries
	10-12 almond nut meats

Sift dry ingredients together. Cream together shortening and sugar; mix well. Beat in eggs, one at a time. Add milk and flour alternately to creamed mixture. Add vanilla extract. Bake in greased cup cake pans in 375° F oven, 20 minutes. Cool, top cakes with frosting. Garnish with cherries and nut meats. Makes 10-12.

SUGARLESS CHOCOLATE FROSTING

Put 2 egg whites, $\frac{1}{2}$ cup light corn syrup and $\frac{1}{8}$ teaspoon salt in double boiler. Beat 9 minutes with rotary beater, or until fluffy. Remove from heat, carefully fold in $\frac{1}{4}$ cup sifted cocoa. Add $\frac{1}{2}$ teaspoon vanilla extract. Makes enough to frost 10-12 cup cakes.

Pickling Time

Tasty items to flavor winter meals

NOW that September has rolled around, and the garden is overflowing with vegetables, pickling begins in earnest. There are old favorites in pickle and relish recipes that will again be among your winter supply, but a few new and different ones are also needed to add a variety and zest to the winter meals. Odds and ends of your garden may be successfully made into pickles and relishes, and the resulting flavor will delight and surprise the family.

Pickles, relishes, and chutneys add little or nothing to the food value of a meal, but they earn their place in our menus through their important job of stimulating appetites. Many bland and colorless foods demand a tangy relish to add flavor. The juicy flavor of meat is further enhanced by the addition of some crisp pickles. Try to keep a variety on hand, and serve two or three different kinds at one meal.

Now is the time to have just a few words about the ingredients in pickle making and the effect of these on the pickles. Salt is one of the prime ingredients for success, and ordinary cooking or dairy salt, usually sold in cloth bags, is the only kind to use. Table salt contains a filler to prevent caking in salt shakers and makes inferior pickles. The vinegar is also very important, and the best quality should be used. Where a light color is required in the pickle, the white vinegar is best, but for flavor the darker vinegar is superior. Either brown or white sugar may be used in making pickles, the dark sugar adding a bit to the flavor, but where color is to be considered, white sugar is best. The sugar used in pickling will come from your preserving ration. The spices, that add flavor and fragrance, should always be fresh, and never used from last year's supply. They may be tied in a cheesecloth bag and removed near the end of the processing, or else a few whole spices may be scattered throughout the pickles. The water used should be soft, if possible. If the water available is hard, add one tablespoon of vinegar to every quart of water used in the brine to soften it. Water containing iron may cause pickles to darken in color. For this reason never use iron utensils when making pickles, as the color and flavor will be spoiled.

When "brine" is called for in the recipe, the usual method is to dissolve one cup of salt in each gallon of water required. If too strong a brine is used the pickles will shrivel up, while too weak a solution will result in soft, slippery pickles. Follow the directions given in the recipe with care, and the resulting pickles should be successful.

Pickled String Beans

4 qts. string beans	1 T. celery seed
2 c. vinegar	1 c. sugar
2 c. water	1 T. salt

Wash beans, leave whole. Cook in boiling water until tender. Combine remaining ingredients, boil five minutes. Add beans and cook five minutes longer. Pack into hot clean jars and seal.

Note: This recipe may also be used for pickling small carrots or stems of Swiss chard.

Pickled Crab Apples

4 qts. crab apples	1 T. whole cloves
2 c. vinegar	2 sticks cinnamon
5 c. brown sugar	1 T. whole spice

Wash crab apples and remove blossom end. Do not pare. Combine remaining ingredients and simmer together 20 minutes. Add apples a few at a time and simmer until tender. Pack apples in hot sterilized jars adding syrup to cover apples. Seal. Makes six pints.

If a more spicy apple is desired, add

one blade mace and one small piece of ginger root to syrup with other spices.

Ripe Cucumber Pickles

6 large yellow cucumbers	2 qts. vinegar
$\frac{1}{2}$ c. salt	4 c. sugar
$\frac{1}{2}$ c. water	2 T. mustard seed
$\frac{1}{2}$ c. mixed whole pickling spices	

Pare cucumbers, quarter, and remove seeds. Cut into strips, 1x2 $\frac{1}{2}$ inches. Combine salt and water and stir until salt is dissolved. Add cucumber strips and allow to stand in brine 12 hours. Drain. Tie pickling spices in a cheesecloth bag. Combine vinegar, sugar, mustard seed and spices. Heat to boiling. Add only enough strips to vinegar at a time to cover the bottom of the pan until just transparent, three to five minutes. Pack into sterilized hot jars. Fill with boiling vinegar mixture and seal at once. Makes eight to ten pints.

Spiced Currants

4 qts. currants	1 tsp. whole allspice
2 lbs. sugar	1 tsp. whole cloves
1 pint vinegar	2 tsp. cinnamon

Wash and stem fruit. Combine sugar, vinegar and spices and boil five minutes. Add fruit and cook until the mixture is thick and clear. Seal in sterilized, hot jars. Makes about five pints.

Corn Relish

6 ears corn	3 T. flour
1 head cabbage	$\frac{3}{4}$ tsp. turmeric
2 large onions	3 c. white vinegar
1 green pepper	1 T. mustard
1 sweet red pepper	1 c. brown sugar
1 T. salt	

Cut the corn from the cobs, chop all the other vegetables, finely and place all together in a preserving kettle. Pour 1 $\frac{1}{2}$ cups of vinegar over the vegetables.

Mix the sugar, salt, mustard, turmeric and flour with the remaining 1 $\frac{1}{2}$ cups of vinegar. Combine the two mixtures; bring to boiling point and let simmer 45 minutes. Fill hot, sterile bottles and seal.

Mustard Pickles

1 pt. cucumbers, about 2 ins. long	3 sweet red peppers chopped
1 pt. large cucumbers sliced	3 green peppers, chopped
1 pt. pickling onions	1 c. sliced carrots
1 c. string beans, cut diagonally into 1 inch pieces	3 c. vinegar
1 pt. small green tomatoes	3 c. water
1 pt. cauliflower, cut into small pieces	$\frac{1}{4}$ c. sugar
	$\frac{1}{2}$ c. flour
	$\frac{1}{2}$ T. turmeric
	1 tsp. celery salt
	4 T. dry mustard

Combine vegetables. Cover vegetables with a brine allowing one cup salt to four quarts water. Let stand overnight in the brine. Drain and soak vegetables in clear water three hours. Drain. Combine vinegar and water and pour over vegetables, let stand one hour, then heat to boiling. Combine sugar, flour, turmeric, celery salt and mustard. Drain vegetables and add vinegar gradually to flour mixture, stirring constantly to make a smooth paste. Cook the mixture over water until thickened. Pour mustard dressing over drained vegetables while they are hot and simmer five minutes. Pack into clean hot jars and seal. Makes about 3 $\frac{1}{2}$ quarts.

Chili Sauce

1 gallon tomatoes, measured after peeling and chopping	1 $\frac{1}{2}$ c. sweet red peppers
1 c. onions, chopped	2 T. mixed pickle spices
1 $\frac{1}{2}$ c. sweet green peppers	3 T. salt
	1 c. sugar
	1 to 2 c. vinegar

Peel tomatoes and chop. Chop onions and peppers. They may be forced through a food chopper, if desired. Tie spices loosely in a bag. Boil vegetables and spices until mixture is nearly one-half its volume. Remove spices, add salt, sugar, and vinegar to desired tartness. Boil rapidly five minutes. Turn into sterile jars or bottles and seal at once. The Chili sauce must be stirred constantly after it starts to thicken, to avoid scorching.

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Corn Favorites

DURING the brief corn season you will want to serve this great favorite of the vegetable family as often as possible. Corn on the cob is most popular, but leftovers are easily used in many tasty ways. Try cooking more corn than is required, so the extra may be used in casseroles, puddings and other tempting recipes.

The fresh tender flavor of corn may be spoiled by wrong methods of preparation. It should be cooked as soon as possible after gathering, as the milky kernels toughen on standing. Overcooking is one of the commonest mistakes, resulting in a dry, tasteless and tough vegetable. Corn is its best if husked just before cooking, dropped into salted boiling water, and tightly covered. Young tender corn requires from five to seven minutes to cook, while older corn will need up to twelve minutes. It is best not to remove the kernels from the cob before cooking as food value and flavor are both lost. If the kernels are to be removed, take them off with a sharp knife after the corn is cooked.

Baked Corn

2 T. butter or drippings	1 T. sugar
1½ T. flour	1 tsp. salt
1 c. milk	½ tsp. pepper
2 c. corn	2 eggs

Melt fat, add flour, mix well. Add milk gradually, cook carefully, stirring constantly until slightly thickened. Add corn, salt and pepper, heat thoroughly. Remove from fire, add well-beaten eggs, pour into buttered baking dish. Bake in moderate oven from 25 to 30 minutes or until corn is firm.

Corn Oysters

2 c. of corn pulp	Salt and pepper
2 eggs	A little onion juice, if desired
4 T. flour	
2 T. butter	

Grate the cooked corn from the cob with a coarse grater. Beat the egg yolks, add the other ingredients, and mix them well with the corn. Last, fold in the stiffly beaten egg whites. Drop the batter from a spoon into hot fat (360-370 degrees Fahr.) and fry the "oysters" until they are light brown in color. Drain them on soft paper and serve them hot. Canned corn may be used to make corn oysters. One of the creamed varieties is best.

Green Corn and Summer Squash

Use fresh tender squash. Peel the squash and cut it crosswise in slices one inch thick. Lay the slices in a well-greased baking dish. Brush and slice with melted butter and sprinkle it with salt. Cover the dish and cook the squash in a moderate oven until it is tender.

Then add a layer of sweet corn about two inches in depth and dot it with bits of butter and pepper. Cover this with thin slices of tomato; sprinkle with salt and sugar and add three or four very thin slices of bacon. Bake in a hot oven (400 to 450 degrees Fahr.) from 25 to 30 minutes.

Corn Rarebit

2 c. fresh corn	½ lb. American cheese
1 c. catsup	Salt, paprika

Heat the corn and catsup together. Add the cheese cut in small pieces, and stir until melted. Season with salt and paprika. Serve on crackers or toast.

Scalloped Corn and Cheese

2 c. fresh cooked corn	1½ c. soft bread crumbs
¼ c. milk	1 c. grated cheese
1 T. chopped onion	2 T. melted butter
1 T. chopped green pepper	Salt, pepper

Combine the corn, milk, onion, and green pepper, and season with salt and pepper. Put half the corn mixture in a baking dish, add half the cheese and half the crumbs, then the remainder of the corn and cheese. Cover with remaining crumbs, which have been mixed with the butter. Bake in a moderately hot oven (375 degrees Fahr.) until browned.

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In England Now

Venturing in a new home and some of the difficulties which we did not dream of in the postwar world

By JOAN M. FAWCETT

Wednesday, July 3rd, 1946. At last we are having some lovely weather after the worst June that anyone can remember. Only during these last few days have we been able to get into our summer clothes. The children had their winter vests on until a fortnight ago, which is a disaster when you want to make them last as long as possible as they are so difficult and so costly to replace.

As a family, we have felt this bad weather as a personal slight for it came at the very worst time for us; just as we had bought and moved into a house of our own. The children and myself have been living in my father's house for the last seven years, while "the husband" was away at the war. He was demobilized last August and while he was working at a market-garden, learning this new trade under the government scheme for ex-servicemen, I looked for a house where we could start a market-garden of our own.

We got desperate. There were no houses except a few tumble-down mansions or rows of insanitary cottages. It was most depressing. All the winter we looked and found nothing until one great day in March. The house agent told us about it and I set off at once to have a look for myself. It was a nice old house and it had a bathroom, which was more than could be said for many of the places that I had seen. There was a walled garden and a small field beyond. There wasn't really enough land. We had wanted about eight or nine acres and here there was only just over two but we decided to bid for the place at the auction and then see if we could get another field should we be lucky in getting the house. Houses fetch fantastic figures in England just at present but the auction was on the anniversary of our wedding day and so we hoped that was a good omen.

There were a lot of people at the auction and we did not think we had a chance but eventually we got the house for less than we had expected to give for it. That was a great day and we could hardly believe our luck.

It was after that, that the difficulties began. The first snag was the furniture. If you have had a house before, even if, as in our case, it was very small, you are not allowed any priority dockets for new utility furniture. This is furniture made under government order at a reasonable price. It is well made and not at all bad to look at. The only other alternative is to buy non-utility furniture, which is expensive, or else antiques. The only dockets I could get were enough for two beds, one for each child because when we had our other house, we only had one child and she was in a cot. Curtain material you cannot get at all without giving up clothing coupons, which very few people have to give up for such things. Carpets are very scarce indeed and like gold to buy. I went to the sale of furniture from this house we had bought, hoping to buy the stair carpets, for ours were not long enough but I had to fall out of the bidding at £60 and in the end they fetched £145!

Our next headache was the kitchen range. It was very old and used a lot of coal and coke both of which are very tightly rationed—we get half a ton of coal every three months—so we decided to enquire about a new range. We thought of an electric cooker and a coke boiler for the water. But the electric supply man shook his head. There had been a new ruling passed in April: you could only have an electric cooker if you were building a new house, or

were converting an old house into flats, or you had been bombed out. As we came under none of these headings there was no hope of us getting a cooker this year and probably not next year. So then we turned our attention to thoughts of an Agga or Esse cooker but we were told quite frankly that we could not have one of those unless we had to cook for 12. As we are only five in the house, it looks as if the old stove will have to do until the restrictions come off and we shall have to hope that it does not fall to pieces and that we can keep it supplied with coke.

All this time we were preparing to move just as soon as the removal people could take us and "the husband" was gardening each day in our new garden. One Saturday and Sunday in early May, we planted 1,500 chrysanthemums. They were to be our first paying crop in the autumn. We had asked for a permit to buy some wire-netting to put around the field and in our ignorance we thought it would not be long coming. It eventually came in the middle of June and by then the rabbits had pretty well pruned the chrysanthemums.

To balance this tale of woe, we liked the house more each time we went there and it was wonderful to have a place of our own after all these years. We moved in on May 28, tired but triumphant. Then we began the struggle to get a permit to buy wood to make a new yard gate and a door for the pigsty. We also planned to have a greenhouse built but when we discovered that it was going to cost nearly £600 without any heating we gave up the idea. The pigsty door has not come yet but we still hope.

We have sold some gooseberries at the controlled price of six pence a pound and have made some jam for ourselves, so we feel the garden is at least producing a little. Later we shall have some plums and pears and probably raspberries if we can get the netting in time to stop the birds eating them.

Sugar is one of the few rationed food stuffs that does not get less. We still have our half pound a week each and now we get 14 ounces of sweets a month instead of 12 ounces. So far we have had two pounds of sugar each for jam and are promised another two pounds.

But the chief topic of food conversation at the moment in England is bread rationing. It has come as a nasty blow to us and, although it may not cause as much hardship as some people expect, we do not like the idea. It is estimated that one person's ration of wheat goods in one week will be: one large loaf, one small loaf, one pound of flour and half a pound of tea cakes or buns. Manual workers and adolescents are to get a little more and small children a little less. It comes into force on July 20 and we are to be issued with a separate ration book for the purpose.

To soothe us a little we are to get 30 clothing coupons on August 1 to last until February. This is a few more than last time and we have been granted them in August instead of September as was first announced. But clothes won't stop you feeling hungry or worrying, if you are a woman, about the meals that come around each day with such speed.

This spring and early summer has seen England in an uncertain mood between thankfulness that the war is well over and disappointment that the peace is so difficult and so slow in reaching any kind of plenty and comfort. We thought it would be different that is the trouble. If we had not dreamed so many dreams it would not

Turn to page 73

New...Faster Rising!

ENDS OVERNIGHT BAKING!



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Baking day goes like lightning with New Fast Rising Royal that lets you finish up your whole baking in just a few hours! And gives you bread with the old-fashioned, home-baked flavor your men-folks love.

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4 packets in each carton. 4 large loaves from each packet.

MADE IN CANADA

Girls in Camp



From left to right: Packing to go home; out for a stroll; a swimming enthusiast; mealtime was fun.

THE tourist camp site of Birtle, was a place of lively excitement and gaiety the first week of August, when the Extension Service of the Manitoba Department of Agriculture held an annual camp for girls.

From various towns and farms in Manitoba came 29 girls between the ages of 12 and 18 to enjoy five days of gay camp life. The area represented extended north to Angusville, east to Minnedosa, west to Foxwarren, and south to Miniota.

The girls arrived in Birtle on Monday and spent the day unpacking and getting settled in the tents where they slept. While they were busy with this they were getting acquainted with one another and in no time at all, became very good friends. A game of baseball after dinner and a sing-song led by the camp leaders helped further to make everyone feel at ease. Most of the girls learned a number of new camp songs, and soon all could sing the songs by heart, and undoubtedly will sing them to friends at home.

Tuesday morning everyone was up around eight o'clock, and before breakfast Miss Laurie Muirhead, who did an admirable job of leading the camp, put the girls through their early morning physical training exercises. To the tune of cracking knees and the commands of Miss Muirhead everyone worked up a terrific appetite for breakfast. Nor were they disappointed, as waiting for them was all the food their hearts could desire, tastily prepared by the popular and capable Mrs. Frank Hadaller, from Hazelridge. Mrs. Hadaller has cooked for many girls' camps. To use her own words, "The only thing I don't like about it is, I become so fond of the girls I hate to say goodbye to them." During the five days the girls themselves took turns at setting tables for meals, washing dishes, and clearing up afterwards, fetching water and other little duties that there were to be done. From the sounds of laughter and joking that went on during these tasks, they were far from unpleasant.

The first day set up a record for swimming activities. At every opportunity there was a mad dash for the dam where the water was a good depth for inexperienced swimmers and would-be mermaids. So popular was this sport that it took real effort on the part of the leaders to coax some of the girls to come out in time for the evening picnic lunch. A short walk from the camp an ideal spot was found and the hearty lunch quickly disappeared. Miss Muirhead, anticipating a battle between the

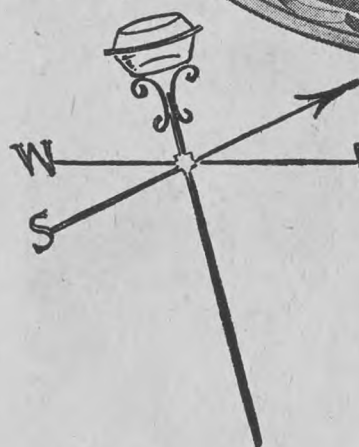
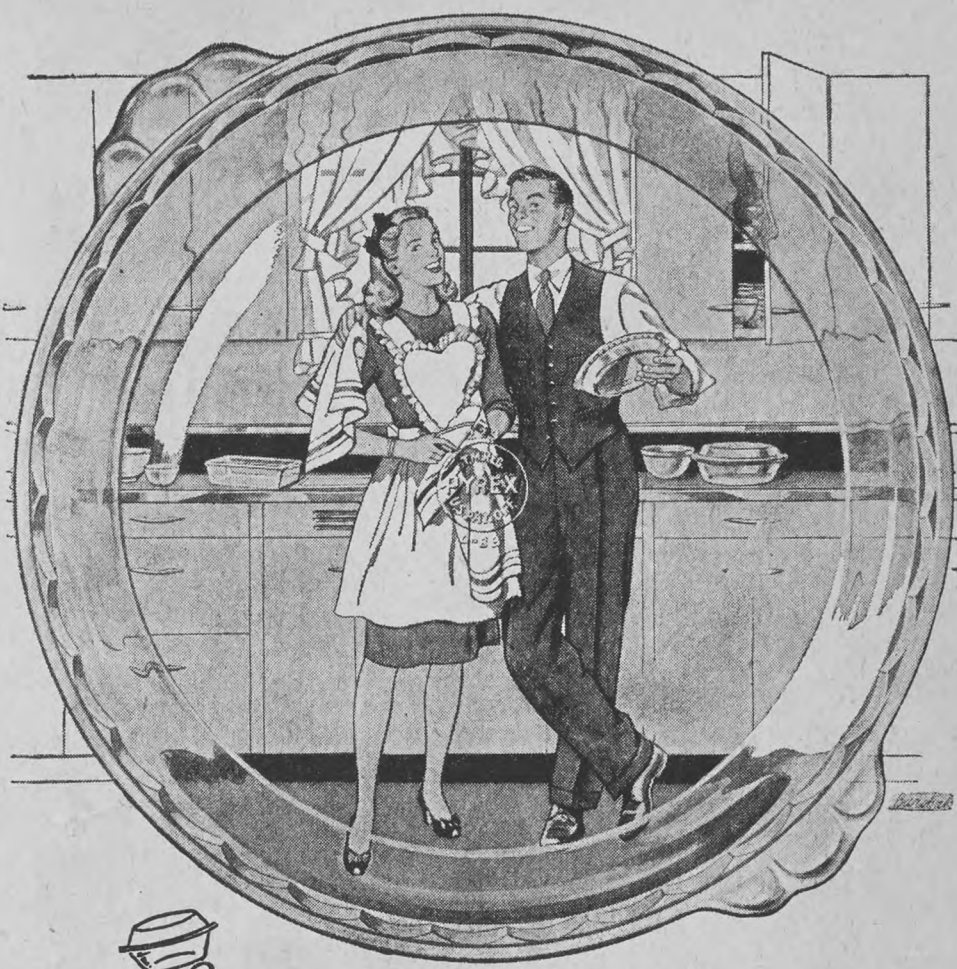
mosquitoes and the campers, brought along a spray of DDT, and sprayed the surrounding area. The results were good.

Tuesday proved to be the only sunny day. Late that night a thunderstorm came up and completely drenched the camp. One of the tents proved unable to withstand the elements and leaked, so two girls were moved to another and newer tent, where the remainder of the night was peacefully spent. Despite the cooler and cloudy weather that followed, some of the hardier and more enthusiastic swimmers continued their daily dips, but the majority sought their pleasure in warmer fields. Baseball proved both warming and exciting, and Tuesday evening found girls divided into two sides for a friendly game, with the onlookers and players yelling at each other and the umpire, Miss Kris Anderson, another of the camp leaders.

Early in the week the girls had been told they were to be photographed for a moving picture that was being taken on the activities of the Boys' and Girls' Clubs of Manitoba. Anxious to look their best when this occasion arose, most of the campers wore curlers and bandanas. Due to the cloudy and dull weather, the picture was not taken until the last day, when the sun showed its face. Frank Holmes was the photographer, and during the brief period of sunlight, showed amazing speed and dexterity, and managed to take a few reels of film. Mr. Holmes has taken pictures of other work and activities of the Boys' and Girls' Clubs, all of which will go into the making of the finished movie.

The last evening in camp was the most spectacular. The girls had been divided into groups, and each group was to put on some sort of song, play, dance, or pantomime in a concert. Camp leaders were also included, and were as busy practicing their act as the girls. The choice of each group was kept secret until it was to be enacted that evening. That night a stage was set up in front of the open air kitchen, and chairs and benches were brought in. In the light provided by the headlights of a car, the concert began, attended by the girls and leaders of the camp, and most of the other campers in Birtle. Applause, laughter and cheers greeted all the acts. This event will long be remembered by those present. Walter Frazer, assistant director of the Extension Service, was present, having come to see how the camp was coming along. He expressed his pleasure with the camp and the girls, and congratulated the leaders on their excellent work. He said, "Birtle has been one of the nicest locations for a camp

Turn to page 73



North-
South-
East-
West

Wherever you're cooking
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THERE'S a great "back home" feeling in the air these days. People are beginning again, everywhere, putting their roots down, starting anew! And what's more natural for a fresh beginning anywhere than a kitchen sparkling with up-to-the-minute Pyrex ware?

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Continuing tiredness, listlessness and pallor may, of course, be caused by other conditions. Always be sure to consult your physician regularly.

But when you have a Borderline Anemia, when you find yourself envying others their vitality and glowing

good looks, take Ironized Yeast. Just remember this—when all you need is stronger, healthier red blood cells—Ironized Yeast Tablets will help you build up your blood and your energy. Ask your druggist for *genuine* Ironized Yeast Tablets... today.

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— a mild anemia due to a nutritional deficiency of iron — can cause
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Energy-Building Blood. This is a microscopic view of blood rich in energy elements. Here are big, plentiful red cells that carry oxygen to release energy to every muscle, limb, tissue.



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TABLETS

Beauty in Profile

To see yourself as others do, it is important to study your reflection in a number of mirrors

By LORETTA MILLER



Chignon and pompadour are in proportion with the facial contour of lovely Yvonne de Carlo, Universal star.

HAVE you ever caught an unexpected glimpse of yourself in a shop window or full length mirror? Were you pleased with yourself? Or were you shocked by the stooped shoulders, protruding abdomen, awkward carriage and generally careless posture? If your best friends won't remind you to square your shoulders and pull your tummy in, then the next best is to come face to face with yourself, unexpectedly.

One of the loveliest and cleverest girls I ever knew had little mirrors sitting and hang around her house at the most out of the way places. When asked what all the mirrors were for, she would explain that, with all these mirrors, she was sure to come upon herself when she least expected it. And these mirrors served as reminders to straighten her back, hold her head high, hold her abdomen in, and, very important, keep the corners of her lips turned upwards.

Right now you are reading this paragraph. And without changing your posture or facial expression, walk over and gaze into the nearest mirror? Are you pleased with your reflection? Of course it may be that you are, but the chances are you met a rather glum reflection, and one whose posture wasn't all you thought it should be. If so, cheer up, for this is one of the easiest of all problems to correct.

First, take up your hand mirror and hold it so that your large bureau, dressing table or wall mirror offers a good reflection of your profile. Now holding the mirror in one hand, use your other hand for rearranging your hair. Raise or lower the back fullness until you find the most becoming line for your profile. If your nose is prominent, the chances are you will look best with a chignon, or some sort of interest across the back of your head. But if your nose is small, a slight fullness across the back of the head will probably offer the right proportion for perfect balance. Not only must the nose be studied in relation to the back hairline, but the chin and forehead, too, should be equally considered.

Are you acquainted with your ears? Have you ever really looked at them and decided that they were not attractive enough to be shown with an up hairdo? Unless ears are attractive enough to come right out in the open, it's best to cover them with a wisp of hair or a soft wave.

Makeup, in profile, should be given more consideration than it seems to receive. Always be sure that the rouged area extends back far enough on the cheeks to give the right contour. Also, be sure that the rosy coloring extends

low enough, too, and by all means rub over the outline so that no sharp line of demarcation is noticeable. This is one of the most usual errors made in putting on makeup, whether viewed head on or from the side. Brow tips should extend out just far enough to create whatever illusion you wish. Slanting the brow tips upward or downward may mean the difference between looking lovely, or completely spoiling the beauty of the profile.

One of the great secrets of holding one's age and foiling the years is correct posture. Not only is it a

great beauty asset, but because correct posture holds every organ of the body in perfect position, it is an important health measure. And because it holds the body in check and all the organs in position, correct posture is a mighty weapon against fatigue and so is an aid to a fresh facial expression.

Study yourself from all angles, especially profile, and try now to overcome faulty posture. Start by placing your back against a wall, heels about eight inches away. Then take a forward step, remembering to hold your shoulders back and abdomen in. As you step forward the action should be at the hips, with only the bending motion in the knees. Then step backward against the wall. Get into position again and take several steps forward. Practice walking forward, then getting your shoulders into position against the wall until you remain in good posture while walking around the room.

With shoulders and abdomen checked for posture, take up your hand mirror and study your throat and chest from the side. By pushing your chin out and up and perhaps raising your chest a bit, you'll view a more youthful reflection than you imagined. To get your head in the best position, stretch your neck. Pretend you have on a very stiff collar that presses upward on your ears and downward on your shoulders. Make your throatline as long as possible. As you straighten your shoulders, your chest will raise naturally and your whole upper body will look lovelier and younger. And though you may be quite young, and perhaps feel that posture is not important to you, let me assure you that it is. It's the one sure way of keeping your youthful appearance. But regardless of age, correct posture plays another important role by preventing out of proportion bodies. Standing, sitting and walking correctly does much to prevent spare tires around the middle, fatty deposits on the hips, and pads for fat on the backward part of the hips just below the waistline. (The latter is so often referred to as the middle-aged spread.)

Here is a simple exercise that will help you achieve correct posture: Use a broom handle as a wand, grasping it with both hands. (There should be between 36 and 44 inches between the hands.) Now standing back against the wall, with heels from six to eight inches away, raise the wand upward and backward until the hands touch the wall. Now deliberately straighten your body, stretching it ever so slowly until you are as tall as you can be. Keeping the hands against the wall, move them

slowly to the right as far as you can. Let the body bend at the waistline as your upper body follows the arms. Then return to original position and lean as far to the left as you can. Repeat until you have leaned in each position five times. This entire exercise should be repeated two or three times each day.

Practice makes perfection. And because correct posture is more than a beauty asset, see to it that you begin now to sit, stand and walk correctly; that you arrange your hair and put on your makeup so that you'll look just as lovely to those you pass on the street as those you meet face to face. Ask one of the members of your family to check your posture for you, too, or, if you're on your own, do as my friend did and place several mirrors around your house. Coming face to face with yourself, or catching a glance of yourself from the side, will spur you on to watch your step . . . and your posture.

GIRLS IN CAMP

Continued from page 71

so far." The evening was topped off by a weiner roast, and everyone went to bed well fed and happy.

During the camp week, many interesting and profitable lectures were given by the four leaders. Miss Doris Baskerville gave a series of talks on Public Speaking, and during its course all the girls were given an opportunity to make a speech. At first some were inclined to be nervous, but after it was over they admitted that they enjoyed giving their speeches and had learned much.

Perhaps the course in handicrafts, given by Miss Kris Anderson, was the most popular with the girls. Plaques of plaster of paris were made by moulding the wet material into different objects such as glasses, fancy dishes, and bowls. After these had dried and become hard, they were painted and shellaced. The pleasure this course gave was evident in the way the girls were still working at their plaques during their spare time, long after the lecture was finished. Many will keep on making more and better plaques when they return home, and perhaps teach friends this delightful art.

A lecture on Social Customs and Table Manners was given by Miss Connie Johannesson. Miss Muirhead kept the girls acquainted with the activities of the different clubs and the officials in the department of agriculture, by a series of talks. A talk on Good Groom-

ing was also presented, giving ideas and suggestions on the art of dressing.

The right to attend the annual summer camps of the Extension Service of the Department of Agriculture is earned by the girls by outstanding work in their local clubs in sewing. The winners of first and second place in sewing work in each club are eligible to attend a week at camp. The winner of first prize has the choice of camp or going to the city for "Winnipeg Week" held the second week in September. This "week" is a meeting of the members of both Boys' and Girls' Clubs who have done good work throughout the year. The expenses of this week in the city are paid by a business firm. Railroad and bus fare up to \$4.00 is paid by the club member. Anything over this amount is paid by the department of agriculture.

It was with regret that the girls packed up on Friday morning and prepared to leave. In one voice they all said that they had had a wonderful time, and hoped they would be back next year. The girls went home feeling that they had made many new friends, learned many helpful things from the talks and lectures, and had become better acquainted with the rest of Manitoba.

IN ENGLAND NOW

Continued from page 70

have been so great a disappointment.

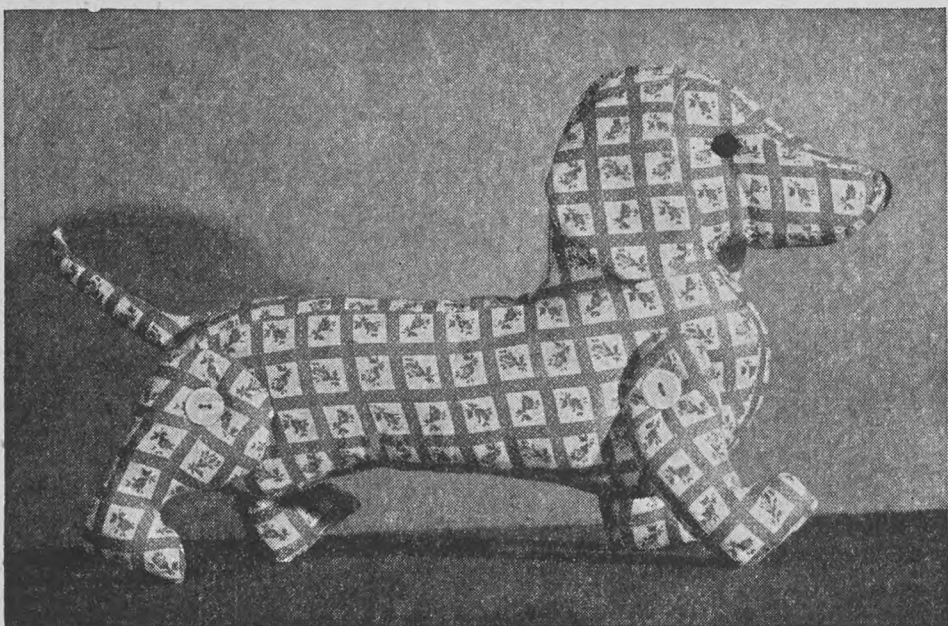
Uniforms have nearly disappeared now unless you live near an aerodrome, when you see parties of W.A.F.'s setting off down the road for their evening off or watch airmen begging lifts from passing motorists. There are quite a few new cars on the road but they are still very difficult to get. We put our name down for a small van for our market garden in May and we shall be lucky if we get it in October or November. A large percentage of everything we make in England has to go overseas to help to put our currency on its feet again and in consequence we are still very short of everything except fish in this country.

On Saturday, June 8, when every village and town as well as London had its peace celebration, it rained and rained and I think nearly everyone felt like saying "I told you so."

In London, of course there was finally an immense show of enthusiasm, and quite rightly too, but without the King and Queen and the great march past of troops it was not so easy to raise it in other places.

Henry---A Stuffed Dog

By ANNA DEBELLE



Design No. 788

This playtime pet could be made of polka dots, stripes, plain colors or of many colors like Joseph's coat. His legs swing back and forth and he is easy as pie to put together. He'll look a little silly but very appealing to a tiny tot. Price of pattern is 20 cents. Address orders to The Country Guide Needlework, Winnipeg, Man.

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Keeps for weeks without refrigeration. Makes delicious bread the modern way . . .

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No. 2872—Good style for the woman of mature figure. Cut in sizes 14, 16, 18, and 20 years, 40, 42, 44 and 46 inches bust. Size 36 requires 2¾ yards 39-inch fabric; with ½ yard 35-inch fabric, and 3½ yards edging for collar.

No. 2934—A perfect shirtwaist dress for the fall season. Cut in sizes 12, 14, 16, 18 and 20 years, 40, 42, and 44 inches bust. Size 36 requires 3¼ yards 35-inch fabric for the dress with short sleeves; 2¾ yards 54-inch fabric for dress with long sleeves.

No. 3023—Ideal for your new fall printed dress. Cut in sizes 12, 14, 16, 18, and 20 years, 40, 42, 44, 46, and 48 inches bust. Size 36 requires 3¾ yards 35-inch fabric.

No. 3031—Versatile dress, ideal for fall or late summer. Cut in sizes 12, 14, 16, 18, and 20 years, 40, 42, 44, 46, and 48 inches bust. Size 36 requires 3¼ yards 39-inch fabric for short sleeves; 3¾ yards 39-inch fabric for long sleeves.

No. 2696—Pretty blouse for the fall suit. Cut in sizes 12, 14, 16, 18, and 20 years. Size 16 requires 1¾ yards 35-inch fabric.



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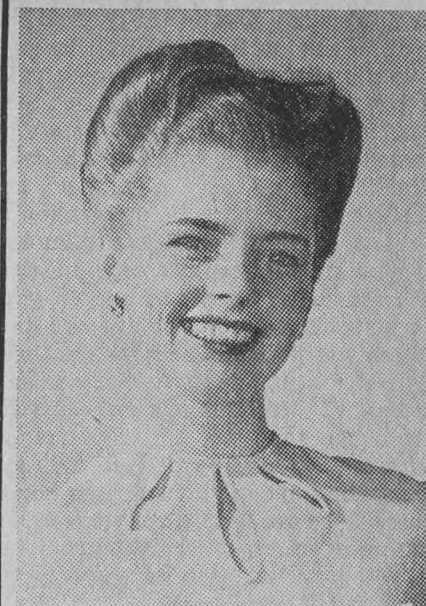
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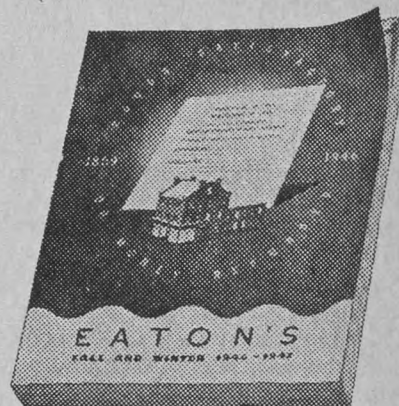
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The Munkumbole

By WALTER K. PUTNEY

THE most important man in any of the ancient Australian tribes was the munkumbole. He excelled as a rain-maker and medicine-man, worked spells of clairvoyance, was an astronomer, geographer, and doctor. He knew the science of the weather and understood the changes of climate or seasons. Yet he never practised black art and was a constant enemy of all evil. In the old meaning of the word, he was a witch but refused to do the bidding of any of the evil spirits. Hence his greatest work lay in circumventing the evil that lurked everywhere.

This man never took part in warfare although he advised the warriors of the tribe how to conduct the fighting. He informed the hunters when and in what localities the game could be found, although he never took part in the hunt. He warned of impending and harmful natural phenomena but left the physical protection of the village to others. He was the most expert of all the tribe in the use of the neilyeri, the wirrie, the crystal, the thumie and the ngathungi—the five instruments most potent in overcoming the forces of witchcraft. Yet he seldom used any of these, leaving that to lesser medicine men of the tribe and his office was to either create them or see that they were properly made.

The munkumbole did not live with any one group, as in a village. His work caused him to travel from place to place, like a great specialist who might be called for consultation when a patient's own physician needs such assistance. If a medicine-man of the village cannot bring rain, settle disputes between quarrelling families or effect the cure of one who is gravely ill, smoke signals were sent up and the munkumbole notified that his presence was swiftly needed. He may be from one to three days' journey distant but he travels with all speed to the village where he is wanted.

The first thing the munkumbole did, when arriving at the village was to have a "vision." From it he drew a picture of what had happened to cause a wound, if the sick warrior was hurt by a hidden enemy, or why a certain serious illness came to the village if the illness was of the nature of an epidemic. His vision reveals the fact that certain water has been polluted and he advises a cleansing of the water supply. Maybe the sick man ate something, nobody knows what. In that case, the munkumbole in his vision has seen certain poisonous shrubs, leaves or roots. He warns against them.

This is considered wonderful power but the secret lies, not in any supernatural prowess but in the fact that he was trained, from boyhood by his father, who was a munkumbole before him. That training called for a thorough knowledge of botany, zoology, and medicine, crude though it may have been. He could not practice his profession until thoroughly versed in the science of curing the sick.

Once each month, at the full of the moon, a meeting of the munkumbole and representatives from the tribes from a certain area is held. The munkumbole sits in the centre of a great circle and listens as various delegates present their chief troubles. Many of these are serious quarrels and the munkumbole must be a peacemaker. His usual method is to have the ones involved take to him their mystic implements that enable them to harm enemies. If they do not have them, they can not bring any quarrel to a successful conclusion. Then he tells them they must exchange those implements one with another, none knowing to whom the one he secures belongs. In this way each warrior is anxious to end the quarrel for he fears the implement he secured may have belonged to the one with whom he quarrelled; hence it could not be persuaded to injure the former owner.

It takes a week to exchange the mystic implements for the munkumbole has to have possession of them for several days in order to cleanse them. By that time the ones quarrelling have had time to cool down and then, after the implements are exchanged, the munkumbole acts as a judge to try each case and decide it on its real merits.

In the fall of the year, when the scanty crops were gathered, the munkumbole had his busiest season. It was then that the evil spirits might come to hurt the grain, drive the fish from the streams or cause the game to go away. Those ancient people did not understand the meaning of hibernation, migration or the change of seasons. They supposed the birds left because evil spirits cast a spell over them and that the game animals disappeared for the same reason. The munkumbole made things all right by saying that he had persuaded the good spirits to send them away so that no evil spirits could harm them; and he promised to have the good spirits bring them back again after the evil spirits had left, the following spring.

Thus it was that this munkumbole practiced white magic and circumvented black magic in all forms. His was the most important office in the tribe and his work similar to that of the witch-hunters, doctors and others who fought witchcraft in England, the continent and America during the 15th and 16th centuries.

LOCATING MINERAL WEALTH

Continued from page 15

one per cent or even one part per thousand of the rocks but one part in 100,000 or even in a million.

You may well ask what possible significance material present in such small proportions may have. Well, consider one of the results. It has been established that far from containing only 12 to 15 chemical elements, each of the many different kinds of primary igneous rocks which exist in the earth's crust probably contain all the chemical elements, but of course, the relative proportions present are different in each rock type.

At about the same time as this was established, students of animal and plant nutrition discovered that for the proper growth of organisms minute traces of certain elements such as manganese, copper, cobalt, zinc, molybdenum, vanadium, and others must be present in the food or in the soil, and they have named these elements micro-nutrients.

Now, since soils are formed by the weathering of rocks which we geologists believe contain all the elements, you

The accompanying article was broadcast by the BBC and is typical of the educational type of radio program put out in the United Kingdom, where sponsored programs are barred. The total volume of educational and cultural material on the air in Britain is very large. Yet Britishers, like Canadians and Americans are always sniping at their own broadcasting systems and comparing them unfavorably with the other fellows. The New York Times of August 25 contains an article which will bring no joy to American Broadcasting chains. The Country Guide would like to hear from its readers on the value of sustaining programs, as those programs are called which are free from advertising.

will realize that all soils should contain the micro-nutrients needed for plant growth and in fact as we know growth, of a kind, does occur in all soils. But the amount of micro-nutrients will vary in different soils because the parent rocks themselves vary in composition, and because constituents may be washed away or concentrated during weathering so that deficiencies may arise from these causes. A wide field for collaborative research between geologists and soil scientists is opened up by these relationships.

We know, too, that coal and mineral oil, which are both derived from fossilized organic remains, contain appreciable amounts of rare metals, especially vanadium and germanium in coal, and vanadium in mineral oil. The ashes and residue of coal and oil are potential sources of these metals, the ores of

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NEEDLEWORK LOVERS

For the reader desiring the address of a needlecraft magazine, Mrs. L. K. L., Minnesota, writes: "I'm sure the needlework lover would like Aunt Ellen's WORKBASKET."

This monthly pattern and direction service brings the latest creations in handcraft and needlework from the country's foremost artists and designers. It is \$2.00 a year in Canada for twelve issues, but no samples are sent because each issue contains large hot iron transfer patterns as well as ideas for such items as dollies, edgings, bedspreads, tablecloths, hats, bags, and baby's things. Orders should be sent to the WORKBASKET, 4504 Westport Station, Kansas City 2, Mo., U.S.A., with currency or money order. If you are not delightfully pleased with the first issue, Aunt Ellen will return your money and you may keep the material you have received without any obligation.

WHEN WRITING TO ADVERTISERS
PLEASE MENTION "THE GUIDE"

which are of rare occurrence: and it is in fact reported that Italy formerly obtained her vanadium from the residues of mineral oil burnt by the Italian fleet. Our understanding of the reasons for the concentration of certain elements in particular types of rocks and ores has been greatly extended by work on the structure of crystalline materials, and this knowledge finds useful application in the processing of ores to separate their various mineral constituents and in the production of pure metals.

Traces of impurities may have a serious effect on the qualities of a metal, but on the other hand a so-called impurity may itself be a valuable by-product of a metallurgical process, as for example in the recovery of cadmium during the electrolytic refining of zinc.

Most of the materials with which one has to deal in processes such as these are crystalline—the individual crystals being very regular little edifices built of atoms and ions of the chief chemical elements present. These fit themselves together on a definite pattern when the crystals are forming, according to their size and other properties. Now it makes a great difference to the way one might go about removing impurities from, say, an ore to know whether they are present as tiny but distinct crystals perhaps inside the larger crystals, or whether they are inside these crystals as foreign atoms displacing the atoms of the main constituents. Mechanical separation might dispose of the tiny crystalline impurities, but would clearly not succeed with those carefully hidden away inside the atomic edifices of the ore crystals themselves.

It may seem a far cry from a smelter to a green field; but geochemistry affords a connecting path in one of those scientific borderlands which it is both fascinating and practically useful to explore.



Movies Celebrate A Birthday

ON Tuesday, August 6, the moving picture industry celebrated a birthday, for it was 20 years before when "Don Juan," the first commercially successful sound film was shown in New York. It was a musical but not a talking film, and was the climax of many years experiment in which Edison, Bell, and De Forest had led.

In the words of the Manchester Guardian, "Though it has not yet come of age, the talkie has reached a maturity that must be a source of pride as well as profit to its originators. The degree of maturity can best be realized by remembering its original childishness, to which, even at the age of twenty, the striping art too often returns. From Al Jolson mouthing "Sonny Boy" to Lawrence Olivier soliloquising before Agincourt is a long step in taste and technique. From the extrovert babbity of "The Home Towners" to the incisive self-criticism of "Citizen Kane" is an even bigger step forward towards artistic integrity, though this is a plane on which the film, either British or American, progresses rather unsteadily. The smaller, poorer studios of France have often been able to express themselves with an assurance and subtlety that seem to flourish only with difficulty in the lavish film factories of Hollywood or Elstree."

The Guardian raises a doubt whether the talking film as we now know it will ever reach a jubilee, but certainly it has many more birthdays to come and they are certain to be celebrated with the attention due to a form of art which provides the major form of recreation to unnumbered Canadians of today, rural as well as urban.

A Forgotten Hero

A tribute to the faithful school horse

By WILLA FORRESTER

WE sing now to an unsung hero. One that has not been in the public eye, nor the subject of reporter's notes, but one whose name is legion. This hero has ambled across Canada in every shady lane and prairie trail, has had more whole-souled love and fond young hopes lavished upon it, but has been the victim of more careless neglect and hard names than any other living creature.

Ladies and gentlemen, I give you the old school horse!

The school horse will not long be a part of the Canadian picture, but many of you recall with joy the tremendous importance of the choosing of your first school horse. You would be in about Grade 3, big enough to drive yourself to school if a suitable, a very dependable horse could be found.

Yes, the horse must be dependable, and not too tall, so you could easily put the bridle on, tho' a jack-spavin or one blind eye did not matter. It must not kick or bite, but spring-halt or swayback were not points to consider. It must be old enough not to be excitable. It must have initiative and above all, road sense, but whether the gait was a pace, or a shuffle, or a mixture of both, was immaterial.

As soon as an ordinary horse becomes a school horse, it invariably starts to develop a marked individuality.

Consider, for instance, old buckskin Peter. He drew the buggy to school each day, and would have done so in exactly the same manner and speed had the reins been tied to the dashboard. But if the children became impatient, slapping or yelling at him, he always pretended he had picked up a stone or something, and would limp pitifully along. Then the children would hop out of the buggy to examine his feet, calling him endearing names the while. Finding no stones, but restoring old Peter's dignity, they would continue the trip as usual.

Old Dot was another, white and fat, who infuriated her driver every single time he had to put her bridle on, by grinning widely in the boy's face, with her teeth clamped as tight as if she had lockjaw. One cold day the children complained that old Dot was too slow—fairly beyond endurance. "But she trots all the way, doesn't she?" asked their dad. Whereupon the littlest passenger replied with more wrath than reason, "Yes, she trots, but always in the same place!"

Then there was old Jenny, brown and hollow in the back. Huge and fat, she carried a tiny red-headed boy to and from school. When ready to go home at four o'clock, the little lad could never make his old mare go, so the whole school would turn out to get her started. They chased her out of the school yard with all the noise they could muster. Old Jenny loves these circus performances, but the little red-head had to keep shouting all the way or she would stop completely.

Pansy was wise enough to turn her head carefully around every morning to see who was driving. If it were little sister instead of big brother, she would turn out so far to meet oncoming vehicles, that she went right into the ditch. There she would remain, in spite of shouts and slaps, until the other rig was past.

There was also Fleurette, whose duty it was to carry a little French boy and his three little doll-like sisters to school in a road cart. Fleurette was a fat, white mare, very quiet and slow. She made history by rearing clumsily and unexpectedly to jump a little drain ditch. Of course the little girls fell back, over the edge of the cart into the trickle of water in the ditch.

Old Babe was dependable, but slow. Her road lay beside a fence over which were branches hanging. The children knew she would go faster if they had a switch, so while one child held the reins, the other would stand on the seat to twist a green branch off a tree. They seldom got more than a twig, but many a time was the standing child jerked by a sudden start from old Babe, to fall among the dinner pails and feed sack. Providence was always near at hand to prevent the child falling into the wheels.

Winnie, a small sorrel pony, had a bad case of spring-halt in the rear left leg. She was owned by a middle sized boy, but all the children practised riding her. A teacher told two stories which we love to recall.

Two boys were arguing about who was to ride Winnie next. The argument got hot, but one boy evidently thought he was wasting time, so took one terrific leap to get on the pony's back. Being accustomed to much larger animals, he leaped so high he went right over Winnie, landing on the other side.

Another time, Winnie's owner was giving a little boy a ride on behind him. The children were making a din close by, which frightened Winnie. All at once she dashed away, giving the boys an uneven ride. The bigger boy yelled at the top of his lungs to the little boy, "Say, Jack, if you're going to fall off, fall on the right hand side, so Winnie's bad left leg won't hit you." Such presence of mind in the midst of excitement!

Prince was a beautiful glossy black pony whose poor little owner had been so proud he could scarcely contain himself. That was before the lad actually drove him. To this day the man who had been that owner declares that it was owing to Prince that his vocabulary of swear words was so complete. For Prince possessed the unbearable fault of balking. He was apt to balk anytime, but he invariably balked when it rained or if the children were in a hurry.

Old Jim, whose charges drove two miles to a village school, zigzagged along the village street in order to look in every large plateglass window. Every morning the villagers would smile to hear the harassed cry, "Go on Jim, you old crowbait, you," from the impatient children.

Yes, if these old plugs, these old school horses were put in a procession, you might laugh to see such blighted equines, troubled as they are by every known minor ailment, from heaves to bog-spavins. You might try to hasten the day of better roads and consolidated schools, but that would not alter the fact that each old horse would be a noble example of fortitude in the face of monotonous duty, Monday through Friday.



Seven Stein sisters up. Photo sent by Martin Quam, Yellow Grass, Sask.

The Country Boy and Girl

Larkspurs in the Wind

By EFFIE BUTLER

Larkspurs in the wind,
Like ladies tall
Gracefully dancing.
Daintily they sway to the music
Of the South Wind
Played on the silver flutes of morning!
Softly murmuring,
Tall blue ladies
Bending low to curtsy
Before their slender partners, attired
Becomingly
In suits of pink and hosen of green.
Advancing closely,
Then back they sway;
Never to embrace
Or feel the pressure of finger-tips;
Solely ever,
They dance and murmur in the South
Wind.

The Mouse's Story

By MARY E. GRANNAN

I AM a little mouse. I look like other mice. I'm fat and grey and my tail is long and straight and pointed. I have two sharp eyes, and long whiskers and I like cheese. That's how I got into the most awful trouble that I was ever in . . . because I like cheese. It was like this. I found out from a field mouse that I happened to know, that the children down at the little brick school-house at the crossroads, took cheese to school in their lunch kettles. The day the field mouse told me this, I smacked my lips and said, "Um . . . um . . . well then that's the place for me! I'm going to school."

"No, no," said the field mouse. "Don't you dare."

"Why?" I asked.

"Because," he said. "The janitor at the red brick school doesn't like mice. If he finds you, he'll catch you, and that'll be the end of you."

"Poo," I said, "I'm smarter than any old janitors. The janitor at the church has never caught me has he?"

"No," said the field mouse, "But there's no lunch pails at the church, and besides the church is big. There's places you can hide. But the school is different. So don't you go!"

But I just laughed at him, and went straight down to the school. If there was cheese at the school . . . there was going to be ME at the school.

The day was Monday. I remember that very well. I got there about recess time, and I couldn't have chosen a better time if I had tried. The children went out to play. The teacher went too. Just as soon as the room was empty, I started to sniff for cheese, and did I ever find a lot of it? I ate till I could scarcely scamper, and then I hid in a book bag.

At noon time all the children cried out at once when they opened their lunches, "Oh, my cheese is gone!"

"That's very strange," said the teacher. And then she saw some of my footprints. "Mice!" she said. "I'll tell the janitor to set a trap."

The next day was Tuesday. I came again at recess and I saw the trap. I laughed, and I got all the cheese again. Wednesday it was the same, and Thursday too. But Friday it rained. I didn't know the children stayed in on rainy days. I didn't even notice they were there, until someone cried out, "Oh . . . there's the mouse."

"Call the janitor," cried the teacher.

My heart leaped right down to the end of my tail. I thought it was the end of me. I didn't know where to run, and then I saw a rubber boot. I leaped into it. It was Jimmy White's boot. I found that out, because someone said, "It went over by Jimmy White's desk."

I knew Jimmy had seen me going into his boot. He almost squealed as I leapt, but he didn't. The teacher came over. As she did, Jimmy slipped his foot into his rubber boot. Some children came over . . . they all looked around for me. I could feel Jimmy's foot on me. But I knew he wasn't going to step on me. Jimmy White was saving my life for me. I could tell.

The janitor came. He hunted and

It's fun starting back to school again, you have all the activities of the holidays to talk over with your class mates, many of whom you haven't seen for two months. Now they seem a little different, a little taller, a little browner.

It's very important to make a good start at the beginning of the school term. When you get those fresh clean textbooks for your new grade you are very proud of them. It's very discouraging to work with a soiled torn dog-eared book so why not try keeping your books fresh and clean by doing these three things to protect them. First make a book wrapper of brown paper, one for each book with an attractive design like the one shown or one of your own choosing. Then trace a book plate to paste in each book so that if your book is borrowed or lost it can be returned. Now fold a piece of heavy white paper and draw the comical Negro boy to make a book mark as sketched. The Negro boy will pop out at you to show you your place every time you open your book.

We have chosen "Aviation" for the first in our series, "What Do You Want To Be?" because this profession appeals strongly to many boys and girls. In future issues we shall describe many other professions among which you may find just "the" one that appeals to you.

Ann Sankey



hunted, but no one could find me. Jimmy carried his rubber boots out of school that afternoon. He didn't put them on. When he got down the road a bit, he turned the boot over and let me out. I looked up at him. I wanted to thank him, but he said, "Run little mouse, run fast. Don't you ever come back to school again. You may not be

so lucky next time. I just wear my rubber boots on rainy days."

I didn't go back to the school. I stayed away on account of Jimmy White. He did something for me. So I'm doing that for him. Much as I like cheese I like Jimmy White better. And, if it hadn't been for Jimmy White, I couldn't have told you this story.

What Do You Want To Be?

Aviation—No. 1 of Series

SLICK silver planes speed mail, passengers and express across the continent, giant flying boats span the oceans, winged freight cars carry precious radium and gold from northern mines and fly heavy machinery and even livestock to the far corners of the earth. Behind the comings and goings of those big silver ships are the services of a large number of experts. Almost any type of work that you can name plays an important part in keeping those planes flying the airways. Let's look over some of those jobs.

Pilots: Piloting a big transport plane is a scientific business, no foolhardy, devil-may-care aviator stands a chance of gaining a post with a major line. To qualify for such a position your first goal will be a job as co-pilot. To qualify, you must have at least 1,200 hours of actual piloting to your credit. You will have to pass physical examinations that

test your equilibrium, your nervous reactions, your mental agility, your heart, eyes and lungs. Only the physically fit can hope to be airline pilots. You must be trained in aerial navigation and become familiar with the many complicated instruments used in modern flying.

Where will you get this training? At the Royal Canadian Air Force or at one of the government-approved commercial aviation schools. Training with the Air Force will be free but you must serve a term of military service before you can enter commercial aviation. At a civilian school you will have to pay for your training but you will be free to enter the field at the end of your schooling. Of course the first requirement is that you complete your high school studies including full courses in mathematics and science. At present this particular branch of commercial avia-

tion is overcrowded and advancement is slow. It takes only one pilot to fly an airliner, but it takes between thirty and forty ground men to keep it flying. For this reason the greatest opportunities are to be found in other equally fascinating fields of commercial aviation.

Mechanics: An airline's record of safety is largely the responsibility of trained mechanics. If you like to tinker and enjoy taking things apart and putting them together again you may find your career as an airplane mechanic. To obtain such training you must attend a trade school, a technical high school or an approved private aviation ground school. From diagrams and actual planes you will learn the secrets of airplane construction, you will be taught the tricks of detecting engine troubles. After this training you will serve as a helper to a full-fledged mechanic in the field that interests you, then take a government exam to obtain a license. The next ten years will bring new airlines, new factories and new airports which will create new jobs for the trained aviation mechanic.

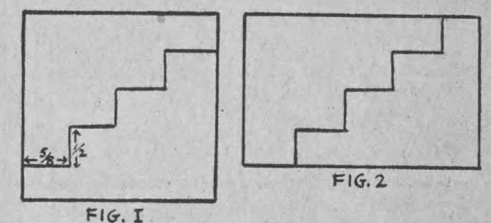
Metalworkers, welders, and machinists: Because the airplanes of today are made almost entirely of metal there are many openings for experienced metalworkers, welders, and machinists. Thin metal sheets must be formed into smooth streamline surfaces and hollow tubes carefully welded. Your training for this line of work begins in a trade school, then you serve your time as an apprentice and take a government exam.

Aeronautical Engineers: These are the designers and scientists of aircraft. Many men work up to such a position by obtaining jobs in the draughting room or learning the construction end by serving first as an airplane mechanic. You must have a natural liking for mathematics and science and a "bump of curiosity" which leads you to analyze and experiment. After you complete your high school studies you enter university to take the course.

Radio Engineers: Are you an amateur radio fan, then here is a market for your hobby. Aviation depends on radio engineers to send instructions to pilots, radio technicians design, repair and test equipment, research work is carried on under their guidance. Technical education with emphasis on radio and electricity is the requirement to enter this field.

Meteorologist: He is the "weather-man" of the airlines who forecasts storms, fogs and adverse winds. Your course of instruction is taken at a college after you have completed high school. However, try your hand at forecasting the weather and check with the weather maps in the newspapers or radio reports.

With aviation are many other workers: accountants, office workers, publicity, advertising, managers. You can begin now to prepare for a career in aviation by taking technical courses as part of your school program, by reading books on the subject, by trying your hand at building a model aircraft and above all by concentrating on those school subjects which will lead you to the field of your choice.



From Square to Oblong

CAN you cut a 2 1/2-inch square of paper into two pieces which will form an oblong? Its easy—when you know how!

The method is shown in Fig. 1. You do it step style, making the up-and-down steps each one-half inch long, and the crossways steps five-eighths of an inch. Use your ruler to measure and mark off the lines. Fig. 2 shows you how to put the oblong together.

Ad. Index

Apart from giving Guide readers a ready reference to items advertised in this issue, the coupon below may be used to order literature, samples, etc., offered our readers, by our advertisers. Advertisers offering literature, samples, etc., are numbered at the left and these numbers should be used in the coupon. Where stamps, labels, etc., are required an "X" appears alongside the number. The ad. itself will tell you what to send.

FARM		Page
1. Animal Breeding and Breaking—Free Information	17	
2. Auto Repairs—Free Catalog	32	
3. Batteries—Free Price List	33	
4. Belts, Pulleys, etc.—Free Catalog	37	
5. Buzz Saws—Details	40	
6. "Electropail"—Information	40	
7. Farm Equipment—Free Particulars	13	
8. xFarm Lands for Sale—Information (specify)	32	
9. Farm Light Batteries—Free Details	13	
10. Farm Wagons—Prices and Particulars	29	
11. Fruits and Berries—Free Catalog	31	
12. Hammer Mills—Free Information	36	
13. xHydra-Lift and Wagon Hoist—Information (specify)	61	
14. Livestock Loss Prevention—Free Booklet	18	
15. Livestock Show and Sale—Particulars	36, 53	
16. Lubricants—Free Booklet	4	
17. Lubricants—Free Catalog	30	
18. Magneto Repairs—Exchange Plan	17	
19. Milking Machines—Free Information	18	
20. Oat Roller—Free Catalogs	16	
21. Oil Filters—Free Book	61	
22. Poultry—Prices and Information	28	
23. Poultry Supplement—Free Information	28	
24. Poultry Supplement—Free Sample	28	
25. Rope—Free Booklet	18	
26. Tractor Saw—Free Book	13	
27. Trappers' Supplies—Prices and Details	17	
28. Veterinary Products—List	17	
HOME		
29. Blankets, etc.—Prices	50	
30. Cactus Plants—Free Catalog	28	
31. Looms—Free Booklet	67	
32. Lye—Free Booklet	49	
MISCELLANEOUS		
33. Airplanes—Information	47	
34. Asthma Remedy—Free Sample	50	
35. Baking Service—Free Folder	31	
36. Banking Service—Soil Erosion Booklet	54	
37. Business Training—Information	52	
38. Business Training—Prospectus D	67	
39. Bus Transportation—Free Literature	57	
40. Detective Training—Information	50	
41. False Teeth Tightener—Free Sample	53	
42. Feminine Hygiene—Free Booklet	74	
43. High School Correspondence Course—Free Information	50	
44. Honor Rolls, etc.—Free Information	62	
45. xMedicinal Herbs, Roots, etc. wanted—Information (stamp)	50	
46. Nickel Company—Free Booklet	23	
47. Packing Company—Annual Report	42	
48. Patents—Free Particulars	30	
49. Rupture Remedy—Free Information	53	
50. Rupture Remedy—Free Information and Trial Offer	13	
GENERAL		
Agents Wanted	36	
Alabastine	62	
Aluminum Paint	37	
Anemia Remedy	72	
Animal Diseases Control	13	
Baking Powder	68	
Baking Soda	74	
Batteries	17, 22, 75	
Beds, Springs, Mattresses	74	
Breakfast Food—Shredded Wheat	69	
Building Paper	56	
Canadian Pacific Railway	35	
Children's Play Togs	12	
Cleanser	67	
Clocks	28	
Coffee	46, 55, 69	
Cream Separator	54	
Dry Cleaning	57	
Dye	62	
Electric Fencing	40	
Express Money Order	13	
Exterminator—Rats	33	
Eye Remedy	67	
Farm Wagons	13	
Files	52	
Floor Enamel	75	
Floor Polish	55	
Grain Company	20	
Grinders	61	
Grocery Store—Institutional	38	
Hair Coloring	74	
Headache Remedy	57	
Hog Supplement	33	
Horse Tail Hair	33	
Insecticide	25, 46	
Insulating Board	34	
Kerosene	15	
Lamps and Lanterns	45	
Laxative	76	
Laxative—Children's	50	
Laxative—Health	72	
Life Insurance Co.	26	
Life Insurance	41, 48	
Light Plants	36	
Liniment	36, 61	
Livestock	16, 36	
Lonely Hearts	50, 53	
Lubrication	53	
Mail Order House	74	
Malting Barley Delivery Regulations	31	
Malting Barley	45	
Mattresses	62	
Meat Curing	50	
Compound	21	
Milking Machine	13	
Needlework	75	
Magazine	70, 73	
Oil Filters	20, 32	
Overalls	2	
Pain Remedy	50	
Paint	16	
Patents	32	
Pile Remedy	50	
Poultry	28	
Supplement 30, 34, 37, 63		
Pumps	57	
Pyrex Ware	71	
Radio Batteries	14, 26	
Ration Regulations	60	
Refrigerators	79	
22 Rifles	57	
Roof Coatings, etc.	37	
Roofing	40	
Rope	37	
Rubber Footwear	27, 56	
Rubber Heels and Soles	76	
Rugs	80	
Seeds Wanted	28	
Shoe Polish	53	
Silver Polish	52	
Skin Remedy	50, 76	
Skin Cream	73	
Soda Biscuits	67	
Stoves	51	
Strip-Seal, Trem-Tred, etc.	50	
Syrup	67	
Tea	52, 67	
Tires	19, 58	
Tobacco	45, 52	
Tomato Products	69	
Tooth Paste	64	
Tractors	24, 59	
Underwear	3	
Valve Caps	28	
Valve Cores	61	
Vaseline	13	
Wood Preserver	30	
Yeast Cakes	70, 73	

THE COUNTRY GUIDE, September, 1946
Winnipeg, Man.

From the items numbered I have selected the following in which I am interested in the literature, etc., offered.

Name.....

P.O.

Prov.

Numbers.....

Please print plainly.

STRAIGHT FROM THE GRASS ROOTS



MISS Mary Ross, of Dickson, Alta., is shown here directing a couple of natives to their proper places on the camping ground. Of all wild creatures surely a fawn is the most lovable. Did you ever see one lying down among the dry leaves and dead twigs in scrub land? You would have to look twice to see it. That is what those spots are for—protective coloration, the naturalists call it. The flecks of sunshine through the



leaves are matched by the spots of the fawn's coat so cunningly that even the keen eye of the wolf, coyote or fox might miss the promise of a dainty meal and the innocent little creature would be saved from an untimely and tragic end.

SOME months ago we told of a letter that had been received from Austria, addressed to Mr. Chipman. It was from a nursery firm. Another has come from war devastated Europe, also addressed to him personally. In this case it is from J. A. Driesprong, Boskoop, Holland, and encloses a price list of nursery stock. The firm was formerly G. Van Kleef & Co. Mr. Driesprong is evidently looking for foreign business as the price list is mimeographed in English. No doubt he could tell an interesting story of the ruination of the business by the Nazis and his efforts to restore it. The industrious and thrifty Dutch are making a grand job of rehabilitating their war scarred country.

J. E. CAMERON, of the File Hills Indian School at Balcarres, writes of two farmers who, jealous of each other's early rising records, became boastful. One allowed as how he got up before 3 a.m. His rival, hoping to catch him in bed, rose at 2 o'clock the next morning and went to call on his bragging neighbor. When the latter's wife answered the door and was asked where her husband was she replied: "Dunno, but he was around the barn early this morning."

WE have a letter from John Morrison, of Yellowgrass, Sask., enclosing an editorial from the Weyburn Review which said that of 37 drownings reported up to that time this summer in Saskatchewan, 13 were in dugouts on farms. The very practical suggestion is made that a plank or a pole should always be within easy reach of a dugout, also a lifebuoy—an inflated inner tube or an airtight gallon can, attached to a small rope, so that it could be thrown to a drowning companion. Mr. Morrison adds the warning note: "Soon ice will be forming on these dugouts and then there will be another sad toll by drownings."

ARE they turkeys, chickens, turk-chicks or chicko-turks? Mrs. Herman Svederus of Delburne, Alta., has a flock of hens but no roosters. She also has Bourbon turkeys. Last spring she bought eggs from her incubator from a neighbor. Just to see what would happen she put a dozen of the supposedly infertile eggs from her own flock into the incubator. Six of the twelve eggs hatched, and the chicks had unmistakable markings of her Bourbon turkeys. Now when they come to be roasted for next Thanksgiving or/and Christmas dinner what are they going to be, roast chicken or roast turkey? And are there any other cases of this racial intermixture on these plains?

HERE is a story from one of the leaders of the British Milk Marketing Board that happily can have no counterpart here: "I always believed back in the days before the milk business was organized that it was full of shady practices and I got my confirmation during a campaign to promote bottling. At one of the hearings a representative of the union represented that if bottling were put into effect drivers' pay should be raised ten shillings a week. I promptly disagreed and stated my belief that men could deliver bottled milk more quickly than if they had to ladle it out of a can into the customer's container. The drivers' spokesman said I had missed the point, and with a cryptic wink said 'sparrows.' I was too innocent to catch his meaning at the time, but on further enquiry I learned that a sparrow was the name given to a driver who had learned the trick of giving the measure a quick flip when it was being filled so that the consumer would get a spoonful less than what he paid for. Bottling put an end to this practice, and the drivers, sensing a potential threat to their income wanted compensation in the form of higher wages."

WHEN Robert Henry, of Roblin, Man., was working on a farm at Pense, Sask., over 40 years ago he tried to catch a young jack rabbit one day but it got away on him. "My boss told me the proper way to catch them is to



mesmerize them," he writes. "Here is how it is done. When you see your rabbit crouched on the ground, you approach to within 20 or 30 feet of him. Then start walking back and forth past him 15 or 20 paces each way. Each time you turn work closer to him. After repeating this a number of times, start bending up and down as you walk, as though picking something off the ground. Then when you are close enough, just stoop and grab your rabbit by the back of the neck. It works. I have caught full grown jacks that way."

What's In This Issue

	Page
B.C. Letter	3
Editorial	10
Under The Peace Tower	11

FEATURES

An English Farm Pilgrimage—By P. M. Abel	5
Kathleen Lake to Burwash Landing—By H. S. Fry	7
Championship Round-Up—By Grant MacEwan	9
News of Agriculture	12
Locating Mineral Wealth	15
Jacking Up The Fat Test	30
Lightning Rods—By Prof. L. G. Shanks	32
Ret, Wigwam, Comb, Break and Scutch—By R. D. Colquette	36
The Farmer's Game Birds—By Kerry Wood	44
Ned Morgan Loved Horses—By Mary L. MacDonald	45
Florence Nightingale's Romance	45
Paying The Mortgage—By Harry J. Boyle	46
The Munkumole—By Walter K. Putney	75
A Forgotten Hero—By Willa Forrester	76

FARM

Livestock	16
Field	22
Horticulture	26
Poultry	28
Workshop	29

HOME

The Countrywoman—By Amy J. Roe	65
Clothes for the Small Child—By Marion R. McKee	66
Pickling Time	68
Corn Favorites	69
In England Now—By Joan M. Fawcett	70
Girls In Camp	71
Beauty In Profile—By Loretta Miller	72
Needlework—By Anne DeBelle	73
Fall Fashions	74

YOUTH

The Country Boy and Girl	77
--------------------------	----

FICTION

The Wild Bunch—By Ernest Haycox (serial—Part V)	6
Rachel—By Victor Rousseau	8

SEPTEMBER, 1946.

Practical Books and Bulletins

"A Country Guide Service"

22. **Hardy Fruits**, by G. F. Chipman—25 cents postpaid.
23. **Farm Workshop Guide**, edited by R. D. Colquette—Illustrations and instructions for gadgets, and practical farm plans—50 cents postpaid (or Free with a \$1.00-for-2-year subscription).
50. **The Countrywoman Handbook**, Book No. 1—Kitchen Labor Savers, Home Decorating, Pattern Reading, Getting Rid of Flies, Bugs, and Beetles, etc., etc.—25c postpaid.
52. **The Countrywoman Handbook**, Book No. 3—Nutrition (foods necessary for proper quantities of vitamins, calories, minerals, etc.), Canning Meats and Vegetables, Curing Meats, Drying Vegetables, Storing Vegetables, etc., etc.—25c.
53. **Farmer's Handbook on Livestock**, Book No. 4—Livestock Nutrition, Livestock Pests and Diseases, etc., etc.—25 cents postpaid.
54. **Farmer's Handbook on Soils and Crops**, Book No. 5—Types of soils. Erosion control. Weed control. Forage crops, etc., etc., postpaid 25c.
55. **Farmer's Handbook on Poultry**, Book No. 6—Poultry Housing; Culling Poultry; Breeding and Chick Care; Egg Production; Producing for Meat; Poultry Breeding; Pests and Diseases; Concerning Turkeys; Raising Geese, etc., postpaid 25c.

BEAUTY AND HEALTH BULLETINS, 1c Each

1. How to Take a Home Manicure.
2. Care of Hands.
3. Care of the Feet.
4. Treating of Superfluous Hair.
5. Daintiness in Dressing.
6. How to Care for Your Skin.
7. Skin Problems.
8. Take a Facial at Home.
9. Care of the Hair.
10. Hair Problems.
11. How to Use Powder, Rouge, and Lipstick.
12. Mouth Hygiene.
13. Getting Ready for a Permanent.
14. Use and Care of Hair Brushes.
15. How to Choose Toilet Soap.

Note:—All Beauty and Health Bulletins OR any one Handbook may be obtained free with a \$1.00 subscription to The Country Guide.

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